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Fruit Situation

Economics, Statistics,
and Cooperatives Service

U.S. Department of
Agriculture

Approved by the
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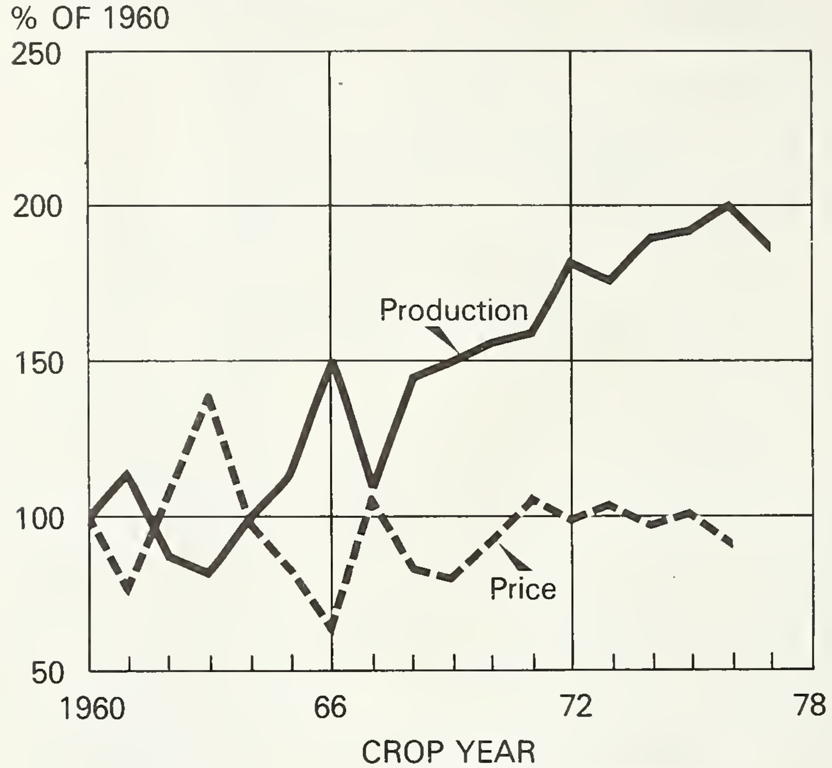
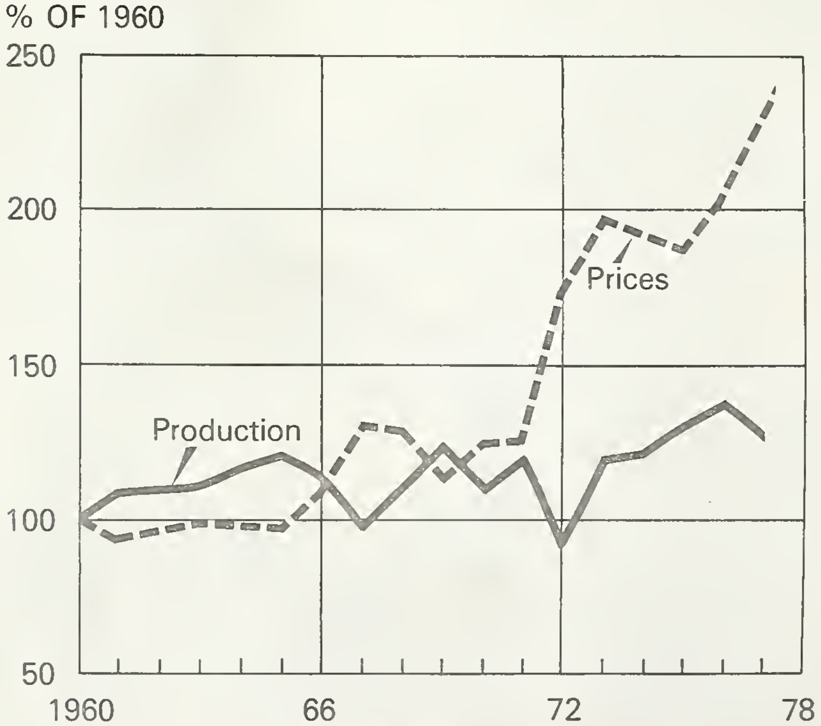
CITRUS FRUIT PRODUCTION AND FARM PRICES



Production of all citrus fruits. Season average growers' price weighted by production. 1977 preliminary.

NONCITRUS FRUIT PRODUCTION AND FARM PRICES



Production of 15 important fruits. Season average growers' price weighted by production. 1977 preliminary.

THE FRUIT SITUATION

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SUMMARY

Most Fruit Supplies Down, Prices Up

This season's fruit prices are expected to be substantially above last year's levels, reflecting smaller supplies of most citrus and noncitrus fruits this year and strong demand in both fresh and processing markets.

The 1978/79 citrus crop is forecast at 13.8 million tons, 3 percent less than last year and 10 percent below the 1976/77 record. Only the tangerine crop is expected to be larger. All other citrus crops are expected to be smaller than they were during the past season.

Prospects of a smaller crop of Florida oranges, accompanied by strong demand, has strengthened prices of frozen concentrated orange juice (FCOJ). Stocks in marketing channels in mid-October were moderately below last year's low level. Movement of FCOJ in September and early October was brisk. As a result, major packers have raised the price of FCOJ to a range of $3.55-$3.86 per dozen 6-ounce cans, f.o.b. Florida.

Carryout stocks at the end of the season are still likely to be near or slightly below last year's low level of 25 million gallons. A higher juice yield is expected from this year's smaller orange crop, however, and the 1978/79 pack may be up moderately over last year. This will result in total supplies slightly larger than in 1977/78, but prices are expected to remain well above levels of a year ago.

A slightly smaller grapefruit crop will keep prices near last year's levels. The lemon crop is slightly smaller than last year, but fresh prices may average about the same.

The 1978 noncitrus fruit crop is forecast at 11.3 million tons, slightly smaller than the past two years. Because of good demand in both fresh and processing outlets, smaller supplies, and higher marketing costs, prices received by fruit growers and paid by consumers are expected to average moderately above the 1977/78 season.

The apple crop is larger this year. However, strong demand in both the fresh and processing markets, combined with a smaller citrus crop, will keep apple prices near last year's levels. The 1978/79 crop is forecast at 7.38 billion pounds, 11 percent above last season's total.

The 1978/79 pack of most processed noncitrus fruit will be below that of a year ago, and total supplies will be smaller. Higher costs of raw product and increased processing costs point to higher prices for most canned fruit this fall and winter season. Supplies of dried fruit, particularly raisins, will also be down this season because of damaging rains in California during the drying season. Prices will be at high levels during the months ahead. Supplies of most frozen fruits and berries are adequate, but demand is strong and prices for these commodities will escalate with other processed items.

The total crops of domestic tree nuts, in-shell basis, are estimated at 447,950 tons, down more than a fifth from last season. Sharply smaller crops of almonds and walnuts, and a substantially smaller pecan crop, are responsible. Both domestic and world prices for all tree nuts will be at high levels throughout this marketing season.

RECENT DEVELOPMENTS AND OUTLOOK

GENERAL PRICE OUTLOOK

Prices received so far this year by growers for fresh and processed fruits have averaged sharply higher than last year. The index of prices received reached a record high of 273 (1967=100) in September, 57 percent above a year ago. Higher prices were reported for all fruits except strawberries. For citrus, as supplies of oranges and grapefruit dwindled, grower prices continued to strengthen. In contrast, lemon prices received by growers declined sharply from August because of increased supplies.

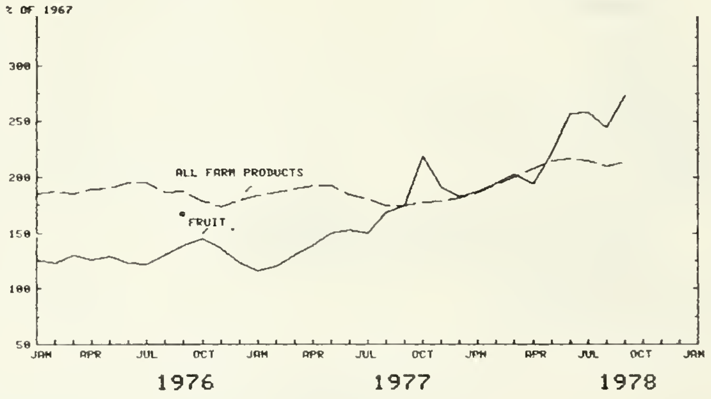
Table 1—Index of quarterly prices received by growers for fresh and processed fruit

Year	(1967=100)			
	1st	2nd	3rd	4th
1974	133	140	148	142
1975	129	152	140	130
1976	126	126	130	135
1977	122	147	164	197
1978	195	224	258	

Source: Agricultural Prices, CRB, ESCS.

The price index in the fourth quarter is still likely to average moderately to substantially higher than a year ago even though supplies of fresh fruit have experienced their seasonal increase. Consequently, the 1978 index of prices received by growers for fresh and processed fruit will average well above a year ago.

PRICES RECEIVED BY PRODUCERS, FRUIT AND ALL FARM PRODUCTS



USDA NEG. ESCS 2253-78 (10)

Table 2—Quarterly retail price indexes for fresh fruit

Year	(1967=100)			
	1st	2nd	3rd	4th
1974	138	153	164	149
1975	150	171	177	147
1976	146	161	170	166
1977	172	190	193	185
1978[1]	196	216		
1978[2]	194	222	247	

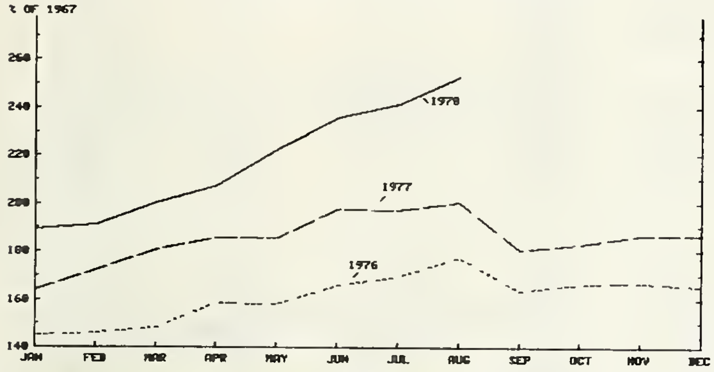
[1] From 1973-June 1978, these indexes were entitled Urban Wage Earners and Clerical Workers, BLS discontinued these Indexes as of June 1978. [2] Starting with Jan. 1978 new index entitled All Urban Consumers, replaces previous index.

Source: Bureau of Labor Statistics.

Even with the larger apple crop, prices received by apple growers are not expected to decline substantially from last year. Demand for apples for both fresh and processing outlets is expected to be good. In addition, the 1978 contract prices negotiated for most noncitrus fruit for processing are above last year's levels. Also, the smaller citrus crop will keep prices relatively high because processor demand will continue to be strong. Consequently, prices received by growers for fresh and processed fruit will average above year-earlier levels through the winter.

Wholesale prices of most processed fruit items have been moderately to substantially higher than a year ago. The September Bureau of Labor Statistics (BLS) wholesale price index for canned fruit continued to strengthen, advancing to 201.4 (1967=100), up from 199 in August, 12 percent higher than last year. With the higher raw product contract prices, and higher processing costs, wholesale prices of canned fruit are expected to continue to rise. In response to good demand and a tight supply of frozen concentrated orange juice, the wholesale price index for frozen fruits and juices has been well above last year. Prices are likely to remain higher as Florida citrus packers have announced a price hike for FCOJ.

FRESH FRUIT: BLS RETAIL PRICE INDEX*



* FROM 1976-1977, THESE INDEXES WERE ENTITLED URBAN WAGE EARNERS AND CLERICIAL WORKERS. BLS DISCONTINUED THESE INDEXES AS OF JUNE 1978, STARTING WITH JAN. 1978 NEW INDEX ENTITLED ALL URBAN CONSUMERS REPLACED PREVIOUS INDEX.

NEG

NEG. ESCS 0974-78 (10)

Although wholesale prices for dried and dehydrated fruits have been considerably below year-earlier levels, they are expected to rise because of the damage to raisin grapes in California resulting from the early September rains.

Table 3—Quarterly wholesale price indexes for canned fruit

Year	(1967=100)			
	1st	2nd	3rd	4th
1974	136.0	140.8	163.6	170.4
1975	170.3	170.7	167.3	164.9
1976	162.8	164.9	171.2	174.0
1977	175.4	179.0	179.6	181.8
1978	183.4	187.1	198.2	

Source: Bureau of Labor Statistics, U.S. Department of Labor.

Retail prices for most fresh fruit averaged sharply above a year ago. The BLS September retail price index for fresh fruit stood at 248.2 (1967=100), down slightly from August, but well above the 180.4 of a year earlier. As supplies of fresh fruit increase seasonally, retail prices are expected to continue to decline this fall. However, continued good demand combined with higher costs of marketing will keep the retail fresh fruit price index moderately to substantially higher this winter than a year earlier.

FRESH CITRUS

The first forecast of U.S. citrus production (excluding grapefruit in California's 'other' areas) for the 1978/79 season is estimated at 13.8 million tons, down 3 percent from the 1977/78 utilized crop and 10 percent below the 1976/77 record. All crops, except tangerines, are expected to be smaller than they were during the past season. Tangerine production will increase in Florida and California.

Oranges

Smaller Crops in Prospect

The first forecast for the 1978/79 season points to an orange crop of 215 million boxes, 2 percent below last season's crop and 12 percent below the 1976/77 output. In Florida, the round orange forecast calls for 167 million boxes, 800,000 less than last year. If current prospects are realized, Florida will produce four-fifths of the U.S. orange crop. California expects a crop of 38 million boxes—the smallest crop in recent years—the result of a smaller Valencia crop. Texas expects a slightly larger crop than last year, but this gain will be offset by a smaller crop in Arizona.

The U.S. output of early, midseason, and Navel oranges is forecast at 120.9 million boxes, 7 percent above last year's small output, but 17 percent smaller than 1976/77. The biggest gains will be in Florida's early and midseason varieties. Production this season is forecast at 95 million boxes, compared with 88 million boxes last year. The California Navel orange crop, at 21 million boxes, is up from last year's small crop but moderately below the 1976/77 total. The Texas crop at 4 million boxes is up slightly. The 0.85-million-box Arizona crop is well above the past two years.

The U.S. Valencia crop is indicated at 94 million boxes, down 12 percent from the 1977/78 season. At 72 million boxes, the Florida crop is 9 percent smaller than it was a year earlier, and the California crop, at 17 million boxes, is down 23 percent. Arizona producers expect to harvest about 2.7 million boxes of Valencias, down slightly from last year and 14 percent below the 1976/77 output. The

Table 4—Citrus fruit: Production, 1976/77, 1977/78, and indicated 1978/79[1]

Crop and State	Boxes			Ton equivalent		
	Utilized		1978/79	Utilized		1978/79
	1976/77	1977/78		1976/77	1977/78	
	1,000 boxes[2]			*1,000 tons*		
Oranges:						
Early, Midseason and Navel varieties[3]:						
California	25,600	20,000	21,000	960	750	788
Florida	115,000	88,300	95,000	5,175	3,974	4,275
Texas	4,350	3,850	4,000	185	164	170
Arizona	800	820	850	30	31	32
Total	145,750	112,970	120,850	6,350	4,919	5,265
Valencias:						
California	19,700	22,000	17,000	739	825	638
Florida	71,800	79,500	72,000	3,231	3,578	3,240
Texas	2,550	2,250	2,300	108	96	98
Arizona	3,150	2,900	2,700	118	109	101
Total	97,200	106,650	94,000	4,196	4,609	4,077
All Oranges:						
California	45,300	42,000	38,000	1,699	1,575	1,426
Florida	186,800	167,800	167,000	8,406	7,552	7,515
Texas	6,900	6,100	6,300	293	260	268
Arizona	3,950	3,720	3,550	148	140	133
Total oranges	242,950	219,620	214,850	10,546	9,527	9,342
Grapefruit:						
Florida all	51,500	51,400	51,000	2,189	2,185	2,168
Seedless	42,400	43,000	41,000	1,802	1,828	1,743
Pink	12,500	14,300	13,000	531	608	553
White	29,900	28,700	28,000	1,271	1,220	1,190
Other	9,100	8,400	10,000	387	357	425
Texas	12,400	11,900	11,000	496	476	440
Arizona	3,000	2,900	2,600	96	93	83
California	7,700	7,500	—	251	245	—
Desert Valleys	4,500	4,300	3,800	144	138	122
Other areas[4]	3,200	3,200	—	107	107	—
Total grapefruit	74,600	73,700	—	3,032	2,999	—
Lemons:						
California	21,000	20,400	19,000	798	775	722
Arizona	5,000	5,700	7,000	190	217	266
Total lemons	26,000	26,100	26,000	988	992	988
Limes:						
Florida	1,000	460	800	40	18	32
Tangelos:						
Florida	4,800	4,900	3,600	216	221	162
Tangerines:						
Florida	3,300	3,200	3,800	157	152	181
Arizona	650	700	650	24	26	24
California	1,820	1,500	1,700	68	56	64
Total tangerines	5,770	5,400	6,150	249	234	269
Temples:						
Florida	3,800	4,900	4,800	171	221	216
Total[5]	358,920	335,080	324,600	15,242	14,212	13,822

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[1] The crop year with bloom of the first year shown and ends with completion of harvest the following year. [2] Net content of box varies. Approximate averages are as follows: Oranges-California and Arizona, 75 lbs.; Florida, 90 lbs.; Texas, 85 lbs.; Grapefruit-California, Desert Valleys, and Arizona, 64 lbs.; other California areas, 67 lbs.; Florida, 85 lbs.; Texas, 80 lbs.; Lemons, 76 lbs.; Limes, 80 lbs.; Tangelos 90 lbs.; Tangerines-California and Arizona, 75 lbs.; Florida, 95 lbs.; and Temples 90 lbs. [3] Navel and miscellaneous varieties in California and Arizona. Early and midseason varieties in Florida and Texas, including small quantities of tangerines in Texas. [4] First forecast for California grapefruit, "other areas" will be as of December 1. [5] Excludes California grapefruit in "other areas."

Source: Crop Production, CRB, ESCS and Florida Crop and Livestock Reporting Service.

Texas Valencia crop is expected to total 2.3 million boxes, slightly more than last year. Trends in orange production, utilization, and grower prices, for the United States and by States, are shown in the following chart.

U.S. prices to growers for fresh and processing oranges during the 1977/78 season averaged $4.31 per box (equivalent on-tree return), compared with $2.21 a year earlier. The total value of orange production during the past season was estimated at a record $1.2 billion (equivalent packinghouse-door return).

The season average price (on-tree return) for all oranges from Florida was estimated at $4.27 per box, up from $2.17 the previous season. Early and midseason varieties returned an average of $3.87 per box, more than double the amount a year earlier, and Florida Valencias brought $4.71, four-fifths higher than during the 1976/77 season.

California orange prices were also substantially higher than during the previous year. The average price per box for Navel and miscellaneous varieties was $4.82, nearly double the year-earlier figures. Valencias returned $4.52 per box, three-fourths above the previous season's figure.

The smaller crop prospects for 1978/79, combined with small carryover stocks of most processed items, will keep orange prices at high levels throughout this season. Current market prospects for oranges through the winter point to grower prices moderately to substantially higher than last year's high levels and will be reflected at the retail level in the months ahead.

Exports Down

Foreign demand for fresh oranges declined during the 1977/78 season. Through August, U.S. exports of fresh oranges totaled 308,271 metric tons, down 14 percent from the previous year. Canada, our largest customer, accounting for nearly half of our exports, reduced its purchases by 9 percent. This decline, coupled with smaller exports to nearly all of the European countries, overpowered the 104-percent increase in exports to Japan. Reflecting some U.S. progress in the 'orange war,' Japan agreed to increase imports of fresh citrus approximately three-fold.

With the current low valuation of the U.S. dollar against other major world currencies, U.S. citrus will be a bargain abroad, and prospects for exports of oranges would normally be bright. However, the continued tight domestic supply situation, coupled with a large crop and aggressive marketing in Brazil, will keep exports at moderate levels.

Grapefruit

Prospects for U.S. grapefruit production during the 1978/79 season point to a crop of 68.4 million boxes (for California, includes desert fruit only), down 3 percent from last season and 4 percent below the 1976/77 total. Last year, California's 'other' areas had a crop of 3.2 million boxes, so the total may approximate 72 million boxes.

Florida's total grapefruit forecast of 51 million boxes is down slightly from last year. The pink and white seedless varieties at 13 and 28 million boxes are down 9 and 2 percent, respectively. Seedy varieties, at 10 million boxes, will be up 19 percent. The Texas grapefruit crop is estimated at 11 million boxes, down 8 percent from the previous season's total. Arizona is expected to harvest 2.6 million boxes, compared with 2.9 million last year. Prospective production in California's desert areas, at 3.8 million boxes, will be down 12 percent from the 1977/78 level. California's grapefruit production in 'other' areas will be forecast on December 8.

Market Prospects and Prices

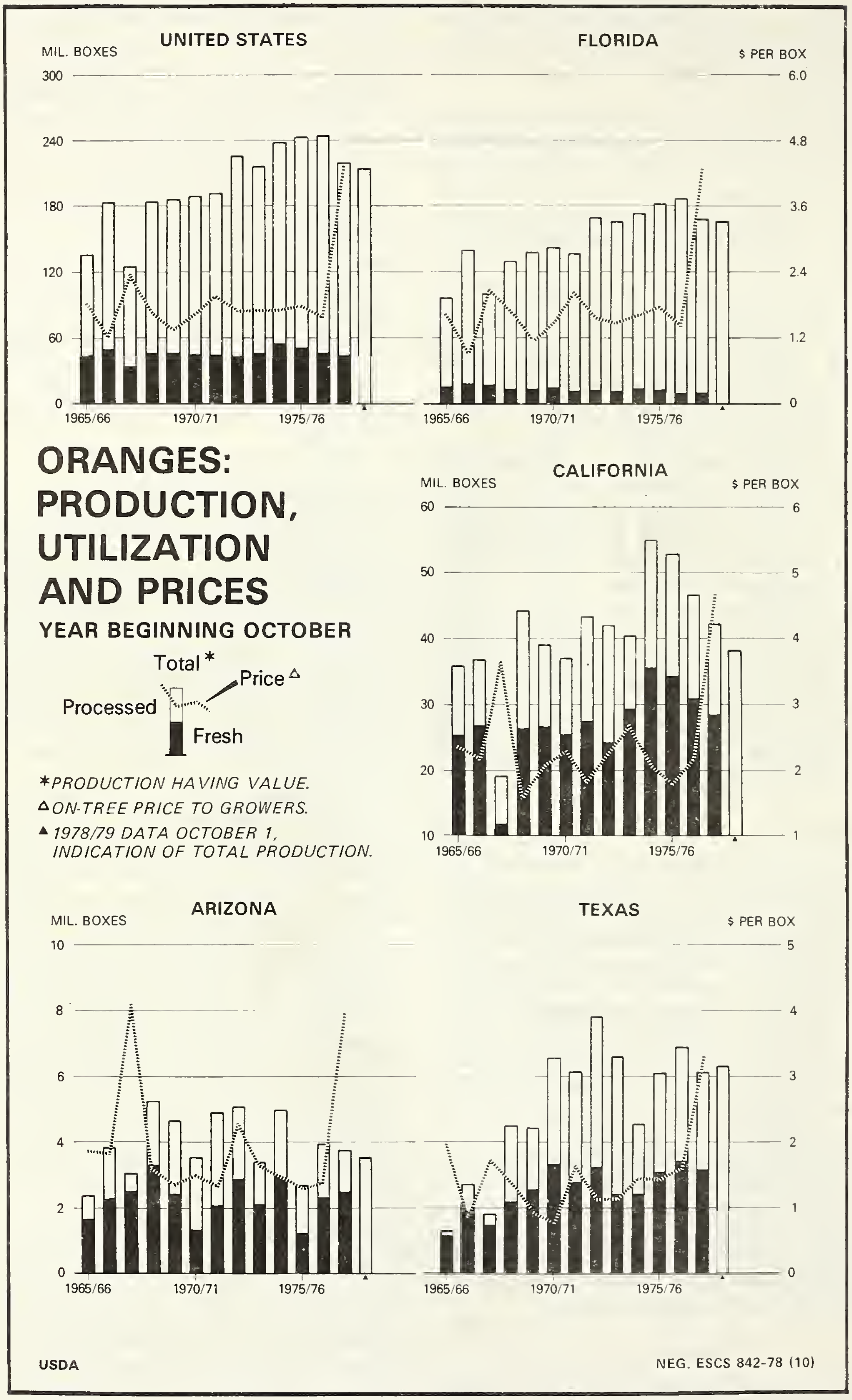
Grapefruit prices for the 1977/78 season were generally higher than a year earlier. The average U.S. price for all grapefruit—$1.55 per box, equivalent on-tree return—was up slightly from the freeze-damaged crop of a year earlier. Grower prices for fresh grapefruit averaged slightly higher, but prices for processing grapefruit were lower. Although 41 percent of the crop was fresh market grapefruit—up from a year earlier—the long-term outlook is for an increasing portion of the crop to be processed.

The average U.S. f.o.b. price for fresh grapefruit during the 1977/78 season was $6.46 per box, 3 percent higher than the previous season's average. Retail prices for grapefruit also averaged slightly higher than a year earlier, and reached a high of 24.8 cents each in June. Retail prices for grapefruit are no longer available from the Bureau of Labor Statistics but grapefruit prices usually peak in September and decline in October/November when the new crop of grapefruit comes on the market.

Because the Florida grapefruit crop is maturing later than normal this year, shipments from Florida were negligible through early October. Consequently, f.o.b. prices for Florida grapefruit at this writing were not established. Prices are expected to average near last year's levels.

Export Prospects Bright

Export demand for fresh grapefruit declined moderately during the 1977/78 season. Through August, the United States had exported 265,162 metric tons of fresh grapefruit, down 5 percent from the year-earlier figure. The overall decline was caused by an 18-percent drop in grapefruit exports to Japan. Exports to Canada and Europe



ORANGES: PRODUCTION, UTILIZATION AND PRICES

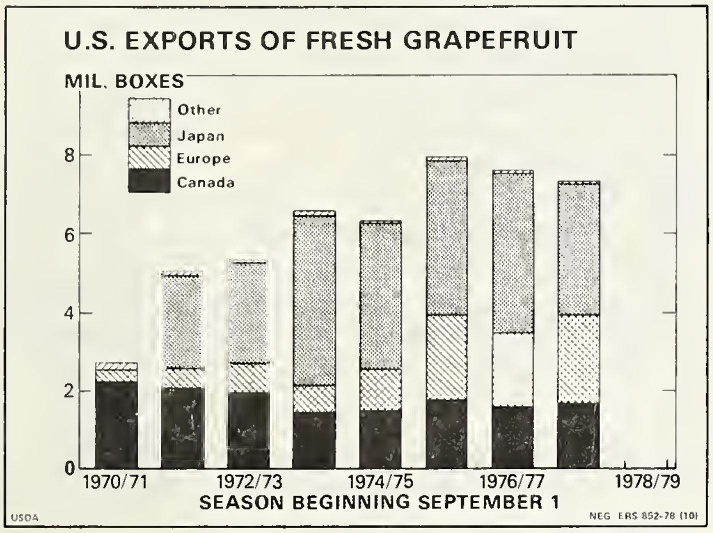
YEAR BEGINNING OCTOBER

**PRODUCTION HAVING VALUE.*
△ON-TREE PRICE TO GROWERS.
▲1978/79 DATA OCTOBER 1, INDICATION OF TOTAL PRODUCTION.

USDA

NEG. ESCS 842-78 (10)

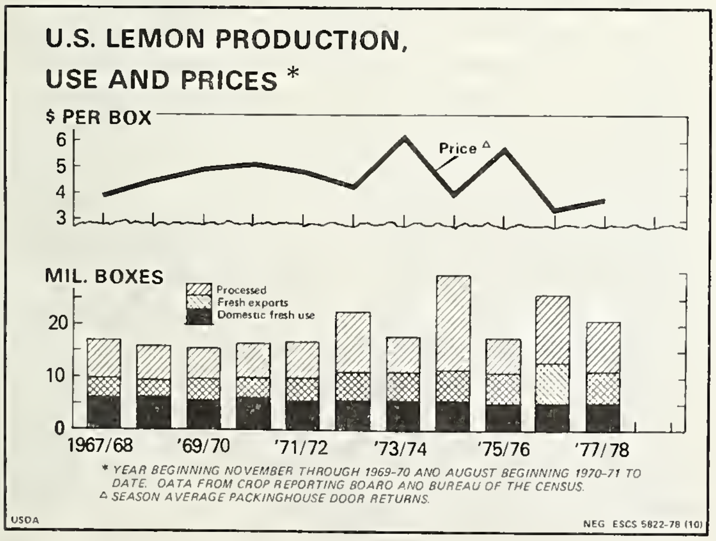
were running ahead of the previous year's totals. Although the grapefruit crop is down from last year, it is still a large crop. With the dollar currently weak against the Japanese yen, prospects are for grapefruit exports to that country to rebound and for overall exports to be at high levels throughout the 1978/79 season.


U.S. EXPORTS OF FRESH GRAPEFRUIT

USDA NEG. ERS 852-78 (10)

Lemons

The California-Arizona lemon crop for 1978/79 is expected to total 26.0 million boxes (896 thousand metric tons), slightly less than last season and the same as the 1976/77 crop. The crop for California, which produced 20.4 million boxes last season, is forecast at 19 million boxes, and Arizona's crop is expected to total 7 million boxes, up from 5.7 million a year earlier. In the desert areas of Arizona and California, grades are good, conditions are excellent, and the fruit is sizing well.


U.S. LEMON PRODUCTION, USE AND PRICES *

* YEAR BEGINNING NOVEMBER THROUGH 1969-70 AND AUGUST BEGINNING 1970-71 TO DATE. DATA FROM CROP REPORTING BOARD AND BUREAU OF THE CENSUS.
△ SEASON AVERAGE PACKINGHOUSE DOOR RETURNS.

USDA NEG. ESCS 5822-78 (10)

In 1977/78, 44 percent of the 26.1 million boxes of U.S. lemons was sold fresh (either to the domestic markets or to exports) and the remaining 56 percent was processed. The quantity of lemons processed depends on crop size, since the quantity of lemons used fresh is comparatively stable with a slight increasing trend. The season average price received by growers in all areas for all uses was $1.94 per box, up moderately from a year earlier. Equivalent on-tree returns for fresh use, however, spurted to $5.72 per box, nearly a third higher than the season before.

Total shipments of fresh lemons through mid-October were moderately larger than a year earlier and f.o.b. prices opened substantially higher. Prices have declined but will probably average at or below last year's level.

Other Citrus Fruit

Smaller Tangelo Crop

Output of Florida tangelos (excluding K-early citrus fruit) is expected to total 3.6 million boxes (147 thousand metric tons), 27 percent less than last season and 25 percent less than was harvested in 1976/77. Last year, 59 percent of the crop was processed and 41 percent sold fresh. The average price to growers (equivalent on-tree return) for fresh use was $4.40 per box. Tangelos for processing returned an average of $2.95 per box. Prices this year will average moderately higher.

More Tangerines

The first forecast of the tangerine crop calls for 6.15 million boxes (244 thousand metric tons), 14 percent larger than last season. Florida expects 3.8 million boxes and California 1.7 million boxes, 13 percent larger than last year. The crop in Arizona is expected to be smaller.

Last year, 59 percent of the tangerine crop was shipped to fresh market, down from nearly 70 percent the year before. The U.S. grower return (on-tree equivalent) for all uses averaged $4.82 per box—one-fourth higher than the year before—and the returns for fresh use averaged $7.80 per box—nearly two-fifths more. Prices this year will be near or slightly above last year's levels.

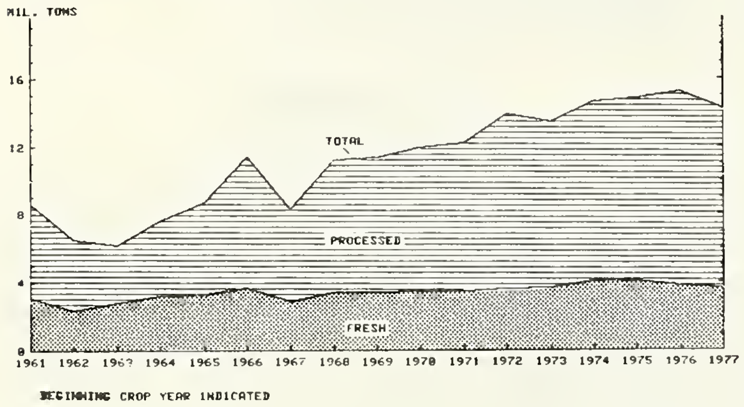
Temples Down

Florida's Temple crop is forecast at 4.8 million boxes (196 thousand metric tons), down 2 percent from the 1977/78 season. The season average price to growers for all uses was $4.29 per box (equivalent on-tree return), nearly double the year before. Prices will remain high throughout the 1978/79 marketing seasons.

PROCESSED CITRUS

Nearly three-fourths of the 1977/78 U.S. citrus crop was processed. The total of 10.5 million tons was 8 percent below the record set a year earlier. Sales of fresh citrus totaled 3.7 million tons, 3 percent less than in the 1976/77 season and 10 percent less than two years earlier. Approximately 82 percent of the oranges, 60 percent of the grapefruit, and 56 percent of the lemons were processed. The total value of production of all citrus, at $1.6 billion, was a new record high.

CITRUS FRUIT
PRODUCTION AND UTILIZATION



USDA NEG. ESCS 0831-78 (10)

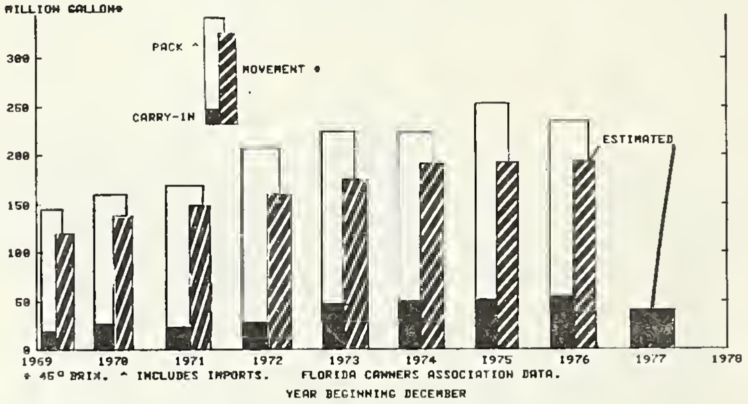
In Florida, oranges used for processing accounted for 94 percent of utilized production in 1977/78. Frozen concentrated orange juice accounted for 79 percent of the oranges, tangelos, and Temples processed. Fresh use of oranges in Florida last season totaled nearly 10 million boxes. The total value of Florida's orange crop was a record $909 million. Florida's near-record grapefruit crop resulted in a record high total value of production. Total value of production was placed at $134.7 million, with fresh use at 35 percent of the crop and processing at 65 percent, down from 68 percent a year earlier, but still well above earlier seasons.

Although the California orange crop was smaller last season, and fresh use declined substantially, processing use increased, partially reflecting conditions in Florida. Processors in California used a third of the total crop, up from 28 percent a year earlier. Following the pattern of all fruit prices, however, the average value per box of oranges in California rose to $5.90 (packinghouse-door return) and the value of production rose to $247.9 million—up 45 percent from the previous season. With a slightly larger lemon crop in California and Arizona last year, 56 percent was used for processing, up from 50 percent the previous season and much above recent seasons. During the past two years, Texas has processed nearly half of both its grapefruit and orange crops.

Frozen Concentrates

The 1977/78 net pack of Florida frozen concentrated orange juice (FCOJ) was 161.2 million gallons, up slightly from 158.0 million gallons a year earlier. The smaller crop and a below-average juice yield were responsible. Processors recovered 1.23 gallons of 45° Brix FCOJ per box from the 1977/78 crop. While the juice yield was well above the 1.07 gallons from the freeze-damaged crop a year earlier, it was still below the 1.29-1.31 gallons the industry had become accustomed to. Juice yield is estimated at 1.29 gallons of 45° Brix concentrate per box for the 1978/79 crop.

FLORIDA SUPPLY AND MOVEMENT OF FROZEN
ORANGE JUICE CONCENTRATE



USDA NEG. ESCS 5713-78 (10)

Because of higher prices, movement of FCOJ has been behind last season's pace. However, the weekly movement rate increased in September, due at least partially to anticipation of the new crop. However, because of the sharply smaller carryin, stocks on October 14, at 45.7 million gallons, were moderately smaller than a year ago. Prices for FCOJ f.o.b. Florida packing plants had been steady at $3.30-$3.35 per dozen 6-ounce cans (unadvertised brands) until mid-October. Immediately after the first crop forecast of the 1978/79 season, however, a major packer raised the price to $3.86 per dozen. Another went up to $3.55. These prices could dampen the product movement. Depending on the extent to which this rate of movement can be slowed, carryout at the end of this season should be near or slightly below the 25-million-gallon level of last year.

Table 5—Oranges, grapefruit, and tangerines processed, Florida, 1973/74 through 1977/78[1]

Crop and season	Frozen concentrates	Chilled products: Juice	Chilled products: Sections and salads	Other processed[3]	Total processed
	1,000 boxes				
ORANGES:[2]					
1973/74	132,469	20,405	605	7,518	160,997
1974/75	135,512	22,761	526	7,580	166,379
1975/76	144,526	24,006	621	7,580	176,733
1976/77	147,772	27,250	378	8,788	184,188
1977/78	130,929	25,345	382	8,071	164,727
GRAPEFRUIT:					
1973/74	8,732	2,715	1,118	16,804	29,369
1974/75	7,779	3,332	967	13,725	25,803
1975/76	8,987	3,919	1,054	14,771	28,731
1976/77	13,020	4,331	934	16,822	35,107
1977/78	13,999	4,363	917	14,083	33,362
TANGERINES:					
1973/74	732	---	---	13	745
1974/75	889	---	---	---	889
1975/76	1,024	---	---	14	1,038
1976/77	959	---	---	24	983
1977/78	1,293	---	---	6	1,299

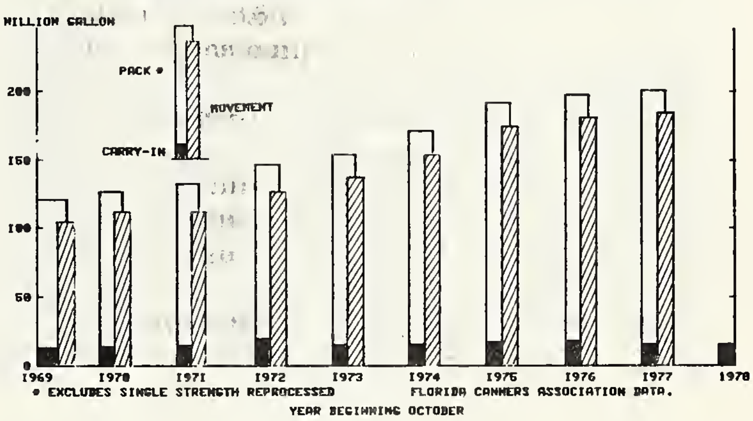
[1] 1977/78 preliminary. [2] Includes tangelos, Temples, and honey tangerines. [3] *Oranges* and *grapefruit*, includes cannery juice, blend, sections, and salads; *tangerines*, include mostly blend products.

Source: Citrus production and utilization reports, CRB, ESCS.

According to the Florida Citrus Processors Association, export shipments of FCOJ through October 14 totaled 8.6 million gallons, down from 11.1 million gallons during a comparable period a year earlier.

Excluding reprocessed gallonage, the 1977/78 pack of frozen concentrated grapefruit juice (FCGJ) totaled 14.0 million gallons, up 14 percent from 1976/77. Because of a larger carryin at the beginning of the season and a larger pack, stocks on hand on October 14 totaled 6.3 million gallons, 14 percent more than at a comparable date a year earlier. Movement of FCGJ this season, at 11.6 million gallons, has been excellent and continues the upward trend in grapefruit juice consumption.

FLORIDA SUPPLY AND MOVEMENT OF CHILLED ORANGE JUICE



* EXCLUDES SINGLE STRENGTH REPROCESSED

FLORIDA CANNERS ASSOCIATION DATA.

USDA

NEG. ESCS 497-78 (10)

Chilled Products

Florida's pack of chilled orange juice for the 1977/78 season reached another record high of 185.0 million gallons (excluding single-strength reprocessed), 4 percent more than last season. Total domestic movement also set a record of 180.5 million gallons, despite higher prices. The U.S. retail price of chilled orange juice averaged 71.1 cents per quart during 9 months (October-June) of the 1977/78 season, compared with 57.9 cents during a comparable period the previous season. Strong movement, despite higher prices, offset the larger pack, leaving carryin slightly smaller than a year earlier. Prices for chilled orange juice will escalate with frozen orange concentrate prices and will remain substantially above last year's levels throughout the winter season.

Canned Citrus

The total pack of canned citrus products in Florida for the 1977/78 season totaled 32.5 million cases (24-2's), only slightly less than last season. Although movement of canned orange and grapefruit juice was up, canned citrus fruits lagged the pace of a year earlier. The slower movement of canned fruit can be attributed to higher prices and a shift of consumer preferences to the chilled products. The current list f.o.b. Florida cannery price of single-strength canned orange juice (unsweetened) was steady at $7.35 per case (one dozen 46-ounce cans) through most of the year but moved up to $8.25 in October. These prices are approximately 38 percent higher than during the previous season and could edge higher during the winter months. Despite higher prices, movement was good and carryover stocks of canned orange juice at the end of the 1977/78 season were a tenth smaller than the previous year.

In view of the slightly smaller Florida grapefruit crop predicted for the 1978/79 season, the pack of canned grapefruit juice (the leading canned citrus item) is expected to be near the small pack of last season. A small carryover and high prices indicate a larger pack would be desirable.

FRESH NONCITRUS

The 1978 noncitrus crop is forecast at 11.3 million tons, slightly below both 1977 and 1976. Because of good demand in both fresh and processing outlets, and smaller supplies, shipping point prices for most fresh noncitrus fruit were generally moderately to substantially above a year ago. They have declined seasonally, but are expected to remain relatively high during the 1978/79 season.

Table 6—U.S. noncitrus fruit: Total production, 1976, 1977, and indicated 1978

Crop	1976	1977	1978
	1,000 tons		
Apples	3,239	3,328	3,692
Apricots	155	147	118
Cherries, sweet	173	148	145
Cherries, tart	73	105	87
Cranberries	120	105	120
Grapes	4,398	4,298	4,318
Nectarines	128	150	145
Peaches	1,510	1,496	1,304
Pears	841	787	699
Prunes and plums	643	720	637
Total	11,280	11,284	11,265

Source: Crop Production, CRB, ESCS.

Apples

Larger Crop Expected

The final forecast for the 1978 U.S. apple crop was placed at 7.38 billion pounds (3.35 million metric tons). This was 11 percent above last season's total, and 14 percent higher than the freeze-damaged 1976 crop. Since August 1, expectations improved in the West and Central regions, and were virtually unchanged in the East. The following table shows the 1978 apple crops by regions, compared with 1976 and 1977.

Table 7—Apples: Regional production, 1976, 1977, and indicated 1978

Area	1976[1]	1977[1]	Indicated 1978
	Billion pounds		
East	2.38	2.72	2.95
Central States	.87	1.01	1.27
West	3.23	2.93	3.16
Total U.S.	6.48	6.66	7.38

[1] Includes unharvested production and excess cullage (million pounds): United States 1976-6.3; 1977-29.6.

Source: Crop Production, CRB, ESCS.

Apple crop prospects in the eastern States show a mixed pattern. New York, the leading apple State in the East, however, expects a crop of 1 billion pounds, an increase of 11 percent from 1977. In the central States, the sharp increase in apple output is attributed mainly to Michigan with a crop of 770 million pounds, 35 percent above 1977. Production in the western States is expected to be 8 percent ahead of last season. Washington, the Nation's leading apple State, expects a crop of 2.25 billion pounds, up almost one-tenth from last year's crop. California, the second largest apple State in the region, also expects a moderately larger crop.

Market Prospects and Prices

Because of a larger crop, shipments of fresh apples are running moderately ahead of last year's pace. Demand for apples for fresh market is expected to be good as supplies of other fresh fruits will be smaller than last year. Processor demand is also expected to be strong during the 1978/79 processing season as processor inventories of canned apple juice and applesauce are lower than a year ago. In addition, the supply of most other canned noncitrus fruit will be tight.

Opening f.o.b. prices for fresh apples at major shipping points were generally substantially above year-earlier levels. Prices have fallen with the increase in shipments. The following table shows the mid-October quotations for Red Delicious by major shipping points compared with a year earlier.

Table 8—Red Delicious Apples: Shipping point prices, selected regions, 1977 and 1978

Shipping points	Mid-October F.O.B. prices 1977	Mid-October F.O.B. prices 1978	Units
Western Michigan	6.63	6.19	Per carton, U.S. Fancy, 2¼'' up, 12-3 lb. film bags.
Appalachian District	5.75	6.88	Cartons, U.S. Fancy or better 12-3-lbs, film bags, 2¾.. up.
Yakima Valley, Washington ..	9.44	9.00	Per carton, tray pack, Wash., State Extra Fancy, 80-125's.

Source: F.O.B. prices, AMS.

Apple prices received by growers will decline seasonally, but good demand, combined with a smaller prospective citrus crop, is likely to keep apple prices near last year's high levels.

Prospective demand for fresh apples in Europe is not favorable. The 1978 apple crops in most of the European countries are expected to be substantially above the small 1977 production. France, the key exporting country, expects an apple crop 37 percent larger than in 1977. In addition, the apple crop in Germany, a key importing country on the Continent, is expected to be 31 percent above a year ago. Prospects for exports to Canada, our largest customer, are not encouraging as Canadian apple production is expected to be up moderately from 1977. In addition, U.S. apples will also be more expensive in Canada because of the decline in the value of the Canadian dollar. However, exports of apples to other parts of the world, particularly the Far East and Mid East, are expected to increase.

The 1977/78 retail price of fresh apples averaged considerably above the low levels of the 1976/77 season. The 1978/79 prices are expected to decline seasonally, but will still be relatively high. In response to good processor demand, apple prices for processing have been negotiated at relatively high levels. Many processors in Michigan and New York have agreed to pay $4.60-$6.25 per hundredweight (cwt.) for processing-variety apples, U.S. No. 1 canner grade, 2½ inches and up, delivered to processors. In California, apple processors are paying substantially higher prices depending on the variety and size. The prices are quoted between $110 to $155 per ton, compared with $95 to $140 per ton last year.

Avocados

Increasing Production

The first estimate of the 1978/79 California avocado crop is a record 6,280 thousand bushels, 52 percent above 1977/78. Alternate bearing characteristics accounted for most of the estimated increase in crop size. However, the continued increase in plantings of avocado trees assures an upward trend in production. The 1977/78 shipments of fresh California avocados were running behind the previous season's shipments. The high winds of early January and the excessive rains later, coupled with the alternate bearing pattern, caused smaller shipments.

The forecast of Florida avocados for certified shipments for the 1978/79 season is placed at 900 thousand bushels, the State's second largest crop. This will be more than twice as large as the 1977/78 crop when only 412 thousand bushels were shipped following the mid-January freeze in 1977. However, the level of shipments is not expected to reach the record 1,098 thousand bushels shipped during 1975/76. Trees have recovered rapidly from the January 1977 freeze and have a good set of fruit. Some production is expected from the large amount of new acreage set during the last few years. An additional 1,217 acres were set during 1976 and 1977. As of January 1978, avocado acreage totaled 9,028 acres, up from 7,881 just two years ago.

Shipments through September were 229,100 bushels, substantially above last year's small shipments. However, they were somewhat behind normal movement as fruit maturity was generally 2 to 3 weeks later than normal. F.o.b. prices for avocados at South Florida points have averaged sharply below last year's levels. In mid-October, shipping point prices for Florida avocados, Greenskin varieties, size 8-16, were quoted at $5.00 a flat, compared with $6.63 a year earlier.

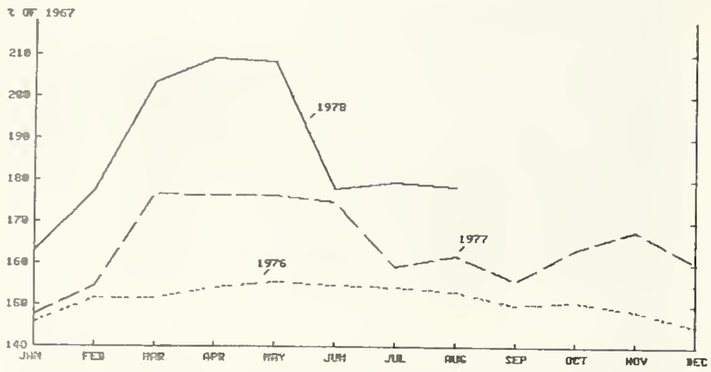
Bananas

Moderately Larger Imports

U.S. imports of bananas during the October 1977 through August 1978 period totaled 2.1 million metric tons, up 6 percent from the corresponding period a year ago. So far this season, Honduras is our top supplier, replacing Costa Rica, which declined to third place. Honduras provided approximately one-fourth of our total imports, nearly the same as last season. Ecuador became the second major source of bananas. Imports from Costa Rica were down 13 percent from the corresponding period a year ago.

Wholesale prices of bananas reached a record high $6.61 per 40-lb. box last April. The September price of $4.58 was the same as a year ago.

BANANAS: BLS RETAIL PRICE INDEX *



* FROM 1976-1977, THESE INDEXES WERE ENTITLED URBAN WAGE EARNERS AND CLERICIAL WORKERS, BLS DISCONTINUED THESE INDEXES AS OF JUNE 1978, STARTING WITH JAN. 1978 NEW INDEX ENTITLED ALL URBAN CONSUMERS REPLACED PREVIOUS INDEX.

However, retail prices of bananas through June were above year-earlier levels. With the larger supply of apples and increased imports, banana prices may weaken somewhat in the months ahead. In addition, the world supply of bananas is likely to increase as Honduras continues to recover its banana production after hurricane Fifi's damage to banana plantations in 1974.

Cherries

Sweet Cherry Crop Smaller

The U.S. production of sweet cherries totaled 145 thousand tons (131 thousand metric tons) in 1978, off 2 percent from 1977 and 16 percent below the record output of 1976. Smaller output was reported for most western States, while the production in the Lake States was larger. In the three Pacific Coast States, the crop totaled 102 thousand tons, off 9 percent from 1977. In Washington, the largest producing State, the crop totaled 54 thousand tons, up 15 percent from last year.

Because of the smaller crop and an expanded export market, prices received by growers for the 1978 sweet cherry crop averaged $683 per ton, compared with $496 in 1977. Sharply higher prices were recorded for all western States, while prices in New York were down slightly.

The smaller sweet cherry crop resulted in a moderate decrease in shipments to fresh markets while shipments to processors increased moderately. The following table shows the utilization of the U.S. sweet cherry crop during the last 5 years.

Table 9—Sweet cherries: Production, utilization, price, and value, 1974-78 crops

Crop	Production[1]		Utilization				Price per ton	Value of utilized production
	Total	Utilized[2]	Fresh	Processed (fresh equivalent)				
				Canned	Brined	Other[3]		
	Thou. tons						*Dol.*	*Thou. dol.*
1974	143.6	143.6	66.6	14.8	51.5	10.6	436	64,057
1975	151.9	151.9	77.5	8.9	60.3	5.2	407	63,484
1976	172.9	167.7	95.1	11.2	51.4	10.0	402	67,474
1977	147.8	146.5	72.4	10.5	52.1	11.5	496	72,686
1978	144.7	144.7	66.8	11.7	51.6	14.6	683	98,924

[1] Difference between total and utilized is excess cullage and quantities not harvested for economic reasons. [2] Some totals do not add due to rounding. [3] Includes frozen, juice, jelly, etc.

Source: Crop Production, CRB, ESCS.

Table 10—Tart cherries: Production, utilization, price, and value, 1974-78 crops

Crop	Production[1]		Utilization				Price per ton	Value of utilized production
	Total	Utilized	Fresh	Processed (fresh equivalent)				
				Canned	Frozen	Other[3]		
	Thou. tons						*Dollars*	*Thou. dollars*
1974	132.4	132.3	2.2	44.9	81.3	3.9	369	48,968
1975[2]	145.2	123.1	3.6	40.8	74.6	4.1	204	25,088
1976	73.3	73.3	3.0	18.6	49.1	2.6	502	36,806
1977	105.4	105.4	3.1	30.1	69.6	2.6	588	61,949
1978	87.1	87.1	2.0	28.2	55.6	1.2	880	76,678

[1] Difference between total and utilized is excess cullage and quantities not harvested for economic reasons. [2] 1975 tart cherry production, price and value of production include 1975 crop reserve pool quantities sold during 1975-76 market season. [3] Includes juices, wine, jam, etc.

Source: Crop Production, CRB, ESCS.

Substantially Smaller Tart Cherry Output

The 1978 U.S. tart cherry crop totaled 174.2 million pounds (79 thousand metric tons), 17 percent smaller than 1977, but 19 percent above the freeze-damaged 1976 crop. Michigan, the leading State, with a decrease of 25 percent, contributed to most of the decline. The Great Lakes States produced 157.8 million pounds, compared with 189.4 million pounds last year. Their share of the total tart cherry crop increased slightly from 89.8 percent in 1977 to 90.6 percent this year.

In response to the substantially smaller crop, and smaller stocks of canned and frozen tart cherries, grower prices for the 1978 tart cherry crop averaged 44 cents per pound, an increase of 50 percent from last year. The following table shows the utilization of tart cherries during the last 5 years.

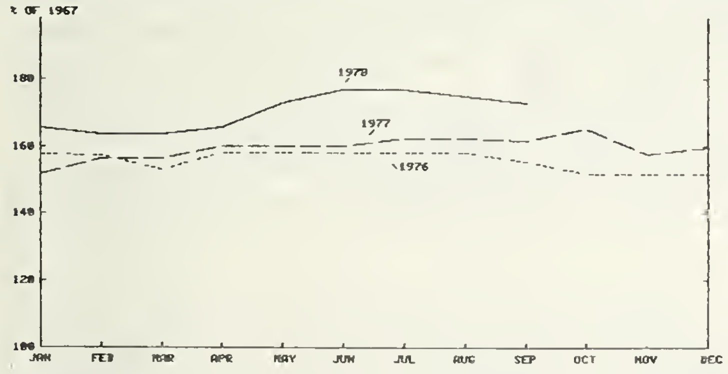
Cranberries

The 1978 production of cranberries is forecast at 2.40 million barrels (109 thousand metric tons), 14 percent above last year's total, nearly the same as the 1976 record level. Larger crops were forecast for every producing State except Washington.

Massachusetts, the largest cranberry State, is expected to produce 1,010 thousand barrels, 15 percent larger than last season and 8 percent above the 1976 crop. Despite the larger crop, season opening prices for fresh Massachusetts cranberries in Chicago wholesale markets were sharply higher than a year ago. They are expected to decline as the season progresses.

F.o.b. prices for canned cranberry sauce were moderately above year-earlier levels but have declined since last July. The BLS wholesale price index for canned cranberry sauce (No. 300 can) averaged 172.6 (1967=100) for September 1978, 7 percent over last year.

CANNED CRANBERRY SAUCE: BLS WHOLESALE PRICE INDEX



USDA

NEG. ESCS 2247-78 (10)

Grapes

Smaller Grape Crop

The final forecast of U.S. grape production as of October 1, at 4.32 million tons (3.92 million metric tons), was 6 percent below the record expectations of a month ago, but slightly above last season's output. Larger crops were forecast for all States except California and Arkansas.

Prospects in California now point to a crop of 3.8 million tons compared with the 4.1 million expected a month ago. California's 5 percent smaller output now accounts for 88 percent of the crop, compared with 93 percent a year ago. Damaging rains early in September reduced the prospective production for all varieties.

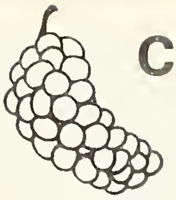
Output of wine varieties, at 1.7 million tons, is still about 9 percent more than last year, while production of table and raisin varieties is expected to be down 28 and 10 percent, respectively. The larger output of wine varieties is generally attributed to an increase in bearing acreage. The estimated bearing acreage for wine grapes totaled 318,180 acres, compared with 315,175 acres in 1977. However, the bearing acreages for raisin and table varieties in 1978 are currently estimated below 1977. Trends for bearing acreage, production, and yield per acre for California grapes, by variety, are shown in the following chart.

Total grape production from States other than California is now estimated at 517,525 tons, up two-thirds from 1977. New York, the second largest grape-producing State, expects a crop of 195 thousand tons, nearly double last year's output. Production in Washington, the third largest grape-producing State, at 155 thousand tons, is up almost a half from 1977. Michigan's grape crop is almost twice as large as 1977. Most of the crops in these States, except Arizona, are Concord varieties, which are largely used for canned or frozen concentrated grape juice in addition to wine.

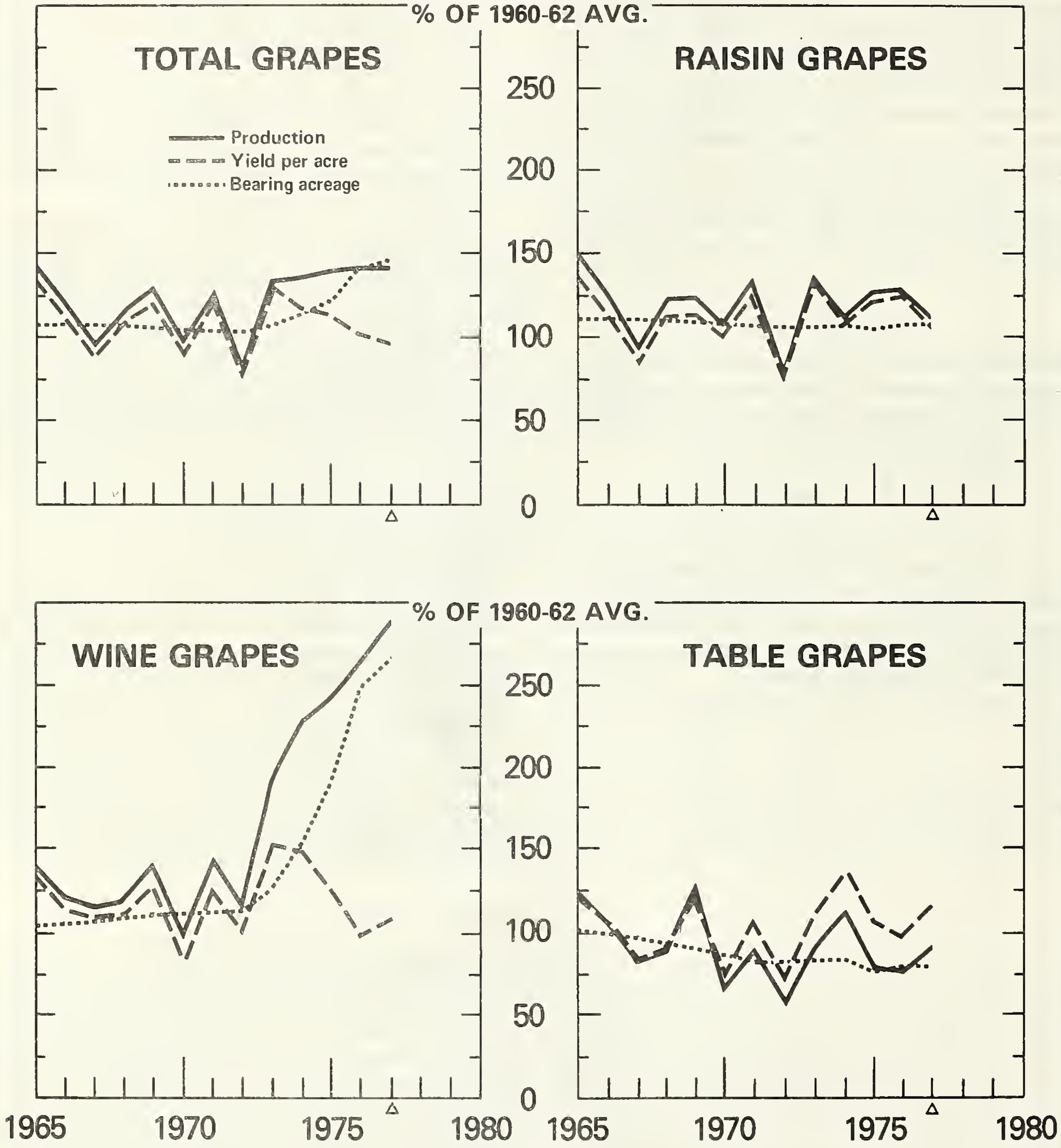
Market Prospects and Prices

Through mid-October, shipments of fresh table grapes totaled 39.4 million pounds compared with 50.7 million pounds during the corresponding period a year ago. Shipping point prices have declined seasonally but they are still above year-earlier levels. By mid-October, Ribiers were quoted at $8.13 per 23-pound lug in Kern County, California, slightly above a year ago. Emperors were quoted at $7.00 per 23-pound lug, an increase of 12 percent over last year. Prices will remain higher throughout the season.

In early October, the Raisin Bargaining Association announced that the packers have accepted a field price of natural Thompson Seedless and Zante currants at $1,600 per sweat-box ton. One provision



CALIFORNIA GRAPES: ACREAGE YIELD, AND PRODUCTION



△PRELIMINARY.

USDA

NEG. ERS 841-78 (10)

Table 11—Grapes: Total production and season average prices received by growers in principal States, 1976, 1977, and indicated 1978 production

State	Production			Price per ton[4]	
	1976[1]	1977[1]	1978	1976	1977
	Tons			*Dollars*	
New York	185,000	101,000	195,000	171.00	220.00
New Jersey	750	1,100	(3)	210.00	233.00
Pennsylvania	59,000	30,000	52,000	168.00	231.00
Ohio	15,000	7,100	15,500	165.00	202.00
Michigan	14,500	33,000	65,000	153.00	197.00
Missouri	1,750	3,850	4,425	228.00	213.00
North Carolina	4,580	4,650	4,700	266.00	320.00
Georgia-South Carolina	4,950	4,850	5,100	209.00	225.00
Arkansas	6,500	9,600	7,500	169.00	156.00
Arizona	12,400	11,000	13,300	725.00	955.00
Washington	115,900	105,600	155,000	132.00	175.00
California:					
Wine	1,323,000	1,563,000	1,700,000	136.00	175.00
Table	405,000	488,000	350,000	217.00	269.00
Raisin	2,250,000	1,935,000	1,750,000	150.00	183.00
Dried[2]	283,000	248,300	—	706.00	840.00
Not dried	976,000	803,000	—	143.00	180.00
All	3,978,000	3,986,000	3,800,000	152.00	190.00
United States	4,398,330	4,297,750	4,317,525	155.00	193.00

[1] Includes unharvested production and excess cullage (tons): U.S. 1976-305,350 (293,000 tons fresh equivalent raisin type in California laid, but not harvested due to severe weather damage); 1977-1,550. [2] Dried basis, 1 ton of raisins is equivalent to 4.50 tons of fresh grapes for 1976 and 4.56 for 1977. [3] Dsicontinued after 1977. [4] Price derived from unrounded data for California all varieties and raisin varieties.

Source: Crop Production, CRB, ESCS.

of the agreement called for packers to waive the grower rental charge for bins and boxes used for the 1978/79 crop. This price offer and rental charge provision were accepted by a majority of packers. This season's price for natural Thompson Seedless is $760 per ton above 1977.

Through October 18, only 8,172 tons of natural Thompson Seedless raisins had been received by handlers and 17,102 tons of all types. This compares with 155,324 tons for the corresponding period a year earlier. The 1978 raisin output will be sharply below the 248,300 tons (dried basis) in 1977.

Winery prices to growers for good quality white variety grapes earlier this season were above last year's levels. Prices varied greatly by producing areas, supplies, and varieties of grapes.

Larger Crush

Reported use of California grapes for crushing through October 14 was 2.3 million tons (fresh basis), up from 2.0 million tons during the same period last season. The largest increase was recorded for wine variety grapes, which accounted for 64 percent of crusher receipts, compared with 61 percent a year earlier. Raisin variety grapes, including Thompson Seedless, also showed a substantial increase over last year.

The larger crush, combined with larger inventories of wine, will keep wine supplies at higher levels this season than last. Inventories of wines in California, as of June 30, 1978, were reported at 365 million gallons, an increase of 6.8 percent from the same period a year earlier. Despite larger supplies, prices for bulk wine have been strong, particularly for white wine, and in early October were substantially to sharply higher than last year. With a continued high rate of inflation, wine prices are not expected to decline.

Pears

Substantially Smaller Pear Crop

The final forecast of the 1978 U.S. pear crop placed production at 699 thousand tons (634 thousand metric tons), 11 percent below 1977. Output of Bartlett pears in Washington, Oregon, and California is forecast at 452 thousand tons, off 17 percent from the 1977 total. Production of pears other than Bartletts, most of which are fall and winter varieties in the Pacific Coast, is forecast at 203 thousand tons, 4 percent above the 1977 crop. Pear production in other than Pacific Coast States is forecast at 43,700 tons, down 9 percent from a year earlier.

Sharply Higher Prices

Fresh market shipments of pears from the Pacific Coast area so far this season through mid-October have been near last year's levels, even with a smaller crop. California's movement was down moderately, but larger shipments from Oregon and Washington were offsetting. However, f.o.b. fresh Bartlett prices on the West Coast have been sharply above year-earlier levels. In mid-October, the f.o.b. quotation for Bartlett pears at Sacramento, California was $13.00 per box U.S. No. 1, 90-150's compared with $8.88 a year ago. Prices for Washington Bartlett pears at Yakima-Wenatchee averaged $10.63 U.S. No. 1, 90-135's compared with $8.50 a year ago. Opening f.o.b. prices for winter pears were also substantially higher than last year. Even though production of winter pears in the Northwest is moderately larger, late-season pear prices are not likely to weaken significantly.

Table 12—Pears: Shipping point prices, selected regions 1977 and 1978

Shipping points	Mid-October F.O.B. prices		Units
	1977	1978	
Lake County Dist., California:			
Bartlett	8.88	13.00	US No. 1, std. box wrapped pack, 90-150's.
Yakima Vally Washington:			
Bartlett	8.50	10.63	Boxes, wrapped, US No. 1, 90-135's.
D'anjou	7.38	8.88	

Source: F.O.B. prices, AMS.

Smaller carryover of canned pears and available supplies of Bartlett pears have resulted in higher prices for processing use. Growers and canners in California agreed to a field price of $182.50 per ton for No. 1 grade Bartletts, an increase of 52 percent from 1977. The Washington-Oregon Canning Pear Association reported the cannery price for No. 1 Bartletts, 2½ inches and larger at $185 per ton compared with $115 in 1977. These high prices will be reflected at the retail level.

Exports Down

During the first 2 months of the 1978/79 season (July and August) exports of fresh pears totaled 4,806 metric tons, 4 percent below the corresponding period a year ago. Total exports of our fresh pears for the season are not likely to exceed last season. Prospects for exports to the European Community are less favorable as substantially larger pear crops in Western Europe are expected. Canada, an important importer for U.S. pears, may purchase more pears this season than last since their pear crop is forecast to be smaller.

PROCESSED NONCITRUS

With a slightly smaller noncitrus crop, the 1978/79 pack of most noncitrus fruit is likely to be less than that of a year ago. Thus, combined with the smaller carryover, total supplies of canned noncitrus products will be below year-earlier levels. Supplies of dried fruit, particularly raisins, are expected to be tight because of the damage from unseasonal rain in early September in California and subsequent poor drying weather. Frozen fruit and berry supplies are also expected to be smaller as deliveries of berries to processors have been substantially less than last year. The smaller supply plus higher cost of raw products and processing will further strengthen prices of processed noncitrus items at all levels.

Smaller Frozen Fruit Pack

The 1978 U.S. pack of frozen deciduous fruit and berries is expected to be smaller than the 636.6 million pounds packed in 1977. So far this season, receipts of strawberries delivered to California freezers totaled 116.6 million pounds through mid-October, compared with 157.7 million pounds a year ago. Imports of frozen strawberries during the first 8 months of 1978 were also slightly less than the corresponding period a year earlier. In contrast, freezers' receipts of blackberries from Oregon have been substantially above year-earlier levels while those of blueberries from Michigan and Oregon are also expected to be substantially larger.

Reflecting a sharply smaller crop in Michigan, the freezers' pack of red tart cherries was substantially less than last year. Generally sharply larger packs were reported for the East, particularly New York and Pennsylvania, but sharply smaller packs in the Midwest were offsetting.

Cold Storage Stocks Down

With the smaller cold storage holdings for most principal fruit, total cold storage stocks of frozen fruit and berries amounted to 560 million pounds on October 1, 11 percent less than the corresponding period a year earlier. Stocks of strawberries at 157 million pounds and red tart cherries at 78 million pounds were down 24 and 17 percent,

Table 13—Stocks of frozen fruit: End of September, 1975-78

Frozen fruit	1975	1976	1977	1978
	Thousand pounds			
Apples	34,694	41,290	60,971	50,159
Apricots	14,624	14,850	16,149	13,747
Blackberries	19,568	16,213	14,745	12,631
Blueberries	35,505	36,079	33,656	35,391
Boysenberries	6,435	3,910	3,845	2,856
Cherries[1]	122,713	72,721	93,776	97,739
Grapes	3,877	3,571	6,231	7,100
Peaches	41,175	66,664	59,439	69,487
Raspberries, Red	26,756	19,171	20,117	17,922
Raspberries, Black	2,654	2,734	1,650	1,675
Strawberries	174,401	141,804	206,439	156,676
Other frozen fruits	109,003	98,155	113,713	94,463
Total frozen fruits	591,405	517,162	630,731	559,846

[1] Includes both sweet and tart cherries.

Source: Cold storage, CRB, ESCS.

respectively, from a year ago, but those of peaches were 17 percent larger.

Because of a sharply smaller frozen stock, wholesale prices of frozen strawberries reached a record high $5.11 per dozen 11-ounce packages in September, up 4 percent from a year ago. With the smaller supplies of most processed noncitrus fruit in prospect, prices of frozen strawberries will remain higher during the 1978/79 season.

Canned Supplies Smaller

The 1978/79 pack of most canned noncitrus fruit will be moderately to substantially below last year's. Thus, combined with the smaller carryover, total supplies of canned noncitrus fruit will be smaller than last season. Complete pack data for canned noncitrus items available so far this season indicate that the pack of canned clingstone peaches amounted to 19.6 million cases (24 No. 2½'s) compared with 27.6 million cases last year. Even with a moderately larger carryover, total supplies of canned clingstone peaches for this season are considerably smaller than the relatively high levels of a year ago. Because of smaller crops of clingstone peaches and Bartlett pears, the pack of canned fruit cocktail totaled 11.7 million cases (24 No. 2½'s), a tenth below the year-earlier level. With the smaller carryin at the beginning of the 1978/79 season, the total supply of canned fruit cocktail is smaller than 1977/78. The moderately smaller pack combined with the sharply lower carryover has resulted in the smallest supply of canned apricots in the last 4 years.

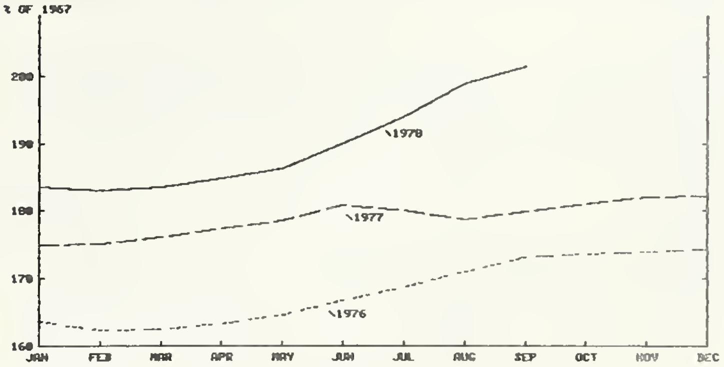
As a result of a smaller crop, the 1978 pack of canned sweet cherries totaled 485 thousand cases (24 No. 2½'s), a decrease of 3 percent from last year. The total pack of red tart cherries amounted to 582 thousand cases (24 No. 2½'s), down 4 percent from 1977. The carryover was near last year's level, but total supplies of both canned red tart and sweet cherries are moderately smaller than a year ago.

Reflecting the larger crop and smaller carryover, the total pack of canned apple products is expected to be larger this season. Apple processors will benefit from smaller supplies of other processed noncitrus items. Even with the larger supplies in prospect, prices of canned apple items will remain firm during the 1978/79 season.

So far, the quantity of Bartlett pears delivered to California canners lags last year's pace. With the smaller carryover, the total supply of canned pears will be substantially less than a year ago. Recently, most California private label packers announced price increases for canned pears.

In response to smaller supplies, wholesale prices of canned fruit continued to advance in September to a record high BLS index of 201.4 (1967=100), 12 percent above a year ago. Prices are moderately to sharply higher for all canned noncitrus. In view of higher costs of raw products, and higher costs of processing and marketing, prices of canned fruits at all levels will remain higher this year.

CANNED FRUIT: BLS WHOLESALE PRICE INDEX



USDA

NEG. ESCS 0976-78 (10)

Exports of canned noncitrus fruit so far this season have shown a mixed pattern, but it is too early to establish a trend. Exports of canned peaches during the first 3 months of 1978/79 have remained strong, up 82 percent from the comparable period a year ago. A strong increase in canned cherry exports, except maraschino cherries, from last year's low level was also reported. Exports of canned fruit cocktail were up 20 percent, and maraschino cherries were up 3 percent, while exports of canned pears were down 7 percent from last year's level.

Smaller Dried Fruit Supply

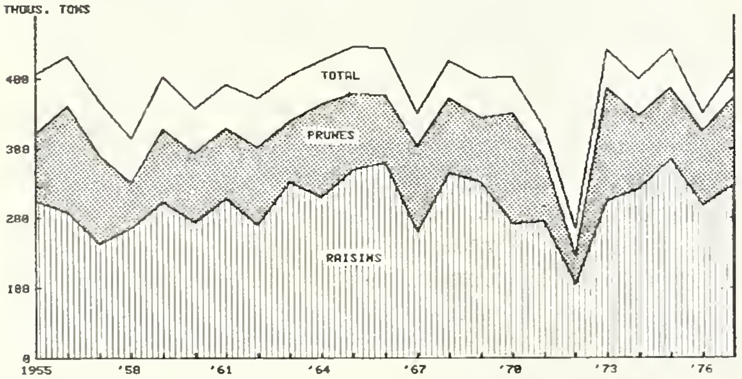
U.S. production of dried fruit for the 1978/79 season is expected to be considerably less than last season. Damaging rains early in September followed by cool, damp weather reduced production of raisin variety grapes to 1.75 million tons, off 5 percent from the September forecast. It includes all grapes for harvest as well as those laid for raisin production. The portion of the crop to be used for raisins is in poor condition and an abnormal amount will be diverted to other processing outlets. In mid-October, official estimates of the final outturn are not available. The production of dried prunes and other major dried fruit items in California was also adversely affected by the wet weather but to a lesser extent than raisins.

According to the Crop Reporting Board, this year's crop of dried prunes is expected to be 138 thousand tons, down more than one-tenth from last year. Thus, even with a slightly larger carryin, this year's prospective supply of dried prunes at 167,144 tons (processed condition) is still 7 percent less than last year. Dried prune shipments during the first 2 months of the 1978/79 season were running ahead of last season's pace. Domestic shipments were up one-fourth in spite of higher prices, while exports trailed those of last season by one-fourth. Export prospects for 1978/79 are not as bright as last year, since France, an important customer, expects a prune crop of 23 thousand metric tons in 1978, up 275 percent from 1977's very poor crop.

Although the carryover of raisins is more than twice as much as in 1977/78, total supplies of standard quality raisins during the 1978/79 season are expected to be smaller. Both domestic and foreign demand for raisins was very strong during the 1977/78 season. However, export prospects for 1978/79 are mixed. Production in Turkey is below year-earlier levels, while Australia, Greece, Iran, South Africa, and Spain are expecting larger crops.

The BLS wholesale prices of raisins have been sharply below year-earlier levels, while those of dried prunes have been sharply higher. The September wholesale price for raisins was $17.82 (15-ounce package, case of 24) compared with $20.10 a year ago. The September wholesale price for dried prunes at $12.61 (16-ounce package, case of 24), was one-fifth above a year ago. In view of sharply reduced supplies of raisins during 1978/79, wholesale prices are expected to be considerably higher this marketing season.

OUTPUT OF DRIED FRUIT*



* NATURAL CONDITION-EXCLUDING PRUNES USED FOR JUICE.

USDA NEG. ESCS 1029-78(10)

TREE NUTS

The 1978/79 crop of the four major edible tree nuts—almonds, filberts, pecans, and walnuts—is estimated at 447,950 tons (in-shell basis), down more than a fifth from last season. Sharply smaller crops of almonds and walnuts, and a substantially smaller crop of pecans, are responsible.

Almonds

Sharply Smaller Almond Crop

Almond production in California is forecast at 170 thousand tons, down nearly a third from last year's final output. Industry sources say this year's crop was being formed during last year's drought and fewer nuts were set. Therefore, the crop is seriously reduced. The current healthy, vigorous state of California almond trees, however, portends a return to large crops again in 1979 and a continued strong industry growth pattern.

So far this marketing season (July 1-September 30), domestic shipments of almonds totaled 26.6 million pounds (shelled weight), 17 percent more than was shipped domestically during the comparable period a year ago. According to the Almond Marketing Board, during the first 2 months of the 1978/79 season (July-August), shelled almond exports were 27.5 million pounds, up nearly 13 percent from a year ago. Exports to West Germany amounted to 12.1 million pounds, accounting for 44 percent of our total almond exports. Japanese purchases of U.S. almonds, at 3.8 million pounds, accounted for an additional 14 percent.

Table 14—Tree nuts: Production in principal States, 1976, 1977, and indicated 1978

Crop and State	1976	1977	Indicated 1978
	Tons	*Tons*	*Tons*
Almonds:			
California	233,000	249,000	170,000
Filberts:			
Oregon	6,950	11,400	11,400
Washington	220	350	350
2 States	7,170	11,750	11,750
Walnuts, English:			
California	183,000	192,000	160,000
Oregon	700	500	(3)
2 States	183,700	192,500	160,000
Macadamia nuts:			
Hawaii	9,495	9,840	n.a.
Pecans:			
North Carolina	1,400	1,000	1,500
South Carolina	1,250	1,500	2,000
Georgia	26,000	44,000	52,500
Florida	1,250	3,050	2,400
Alabama	2,500	16,000	7,500
Mississippi	750	5,500	5,000
Arkansas	500	1,500	2,250
Louisiana	1,000	15,500	8,000
Oklahoma	1,150	6,750	5,000
Texas	10,000	16,000	12,500
New Mexico	5,750	7,500	7,500
Total	51,500	118,300	106,150
Improved varieties[1]	38,650	68,950	68,750
Native and seedling	12,900	49,350	37,400
Total 4 tree nuts[2]	475,420	571,550	447,900

[1] Budded, grafted, or topworked varieties. [2] Excludes Macadamia nuts. [3] Estimates discontinued after 1977 crop.

n.a.—Data not available temporarily.

Source: Crop Production, CRB, ESCS.

In response to excellent demand at home and abroad, the average price received by almond growers for the 1977 crop was $1,030 per ton, up sharply from the year-earlier level. With a sharply smaller crop in prospect, grower prices will average much higher. Early spot prices have been more than 50 percent higher than last year's average.

Larger crops in Spain and the Mediterranean countries will have a moderating influence on world almond prices, but domestic suppliers will essentially be rationing almond supplies among prime customers and prices will be at record levels.

Filberts

Large Filbert Crop

The 1978 filbert crop is forecast at 11,800 tons, the same as last year, but 64 percent above the small 1976 crop. In Oregon, nut sizes are larger than last year, and in Washington there are more single and double nuts and fewer triple nuts than a year ago. As usual, Oregon will produce about 97 percent of the U.S. filbert crop.

Foreign production is expected to be up this year. Turkey, the leading producer, expects a crop of 320 thousand tons, a tenth larger than last year's output. Despite the larger crop, Turkey's support prices are 30 percent higher than a year ago. The commercial filbert crop in Italy is forecast at 100 thousand metric tons, up 43 percent from the 1977 level. These gains will be only partially offset by a smaller filbert crop in Spain, currently set at 16 thousand metric tons—about half of last year's production.

If current forecasts are correct, supplies of filberts in world markets will be at record levels. Despite the larger supplies, a strong demand is expected to keep world prices at levels considerably higher than last year.

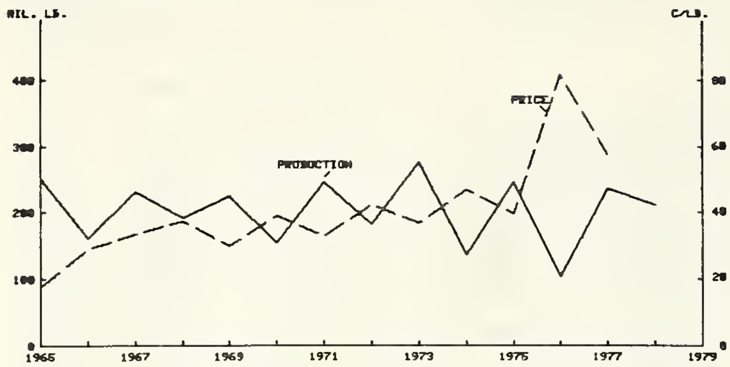
U.S. producers will benefit from the higher world prices. Last year U.S. prices to growers averaged $687 per ton, up from $640 a year earlier. This year, boosted by higher world prices for filberts and shorter crops and higher prices for competing nuts, prices for filberts should average well above last year. In mid-October, growers were selling good quality new-crop filberts at 42 cents per pound.

Pecans

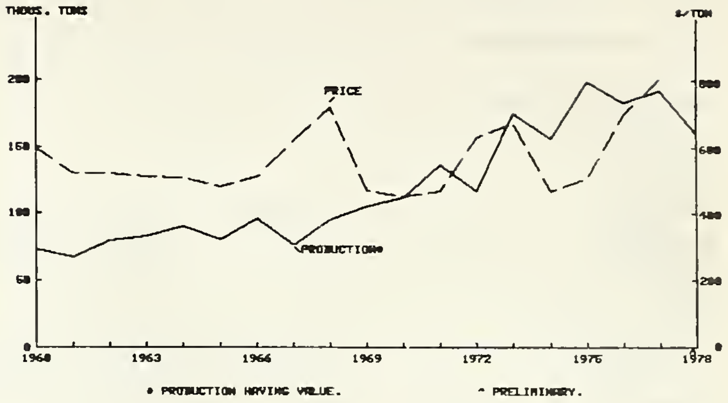
Pecan Crop Down

The October 1 forecast of the U.S. pecan crop places production at 212 million pounds, 10 percent less than last year but more than double the short 1976 crop. Dry weather in September throughout most of the South reduced the crop from earlier expectations, but in Georgia, the leading producer of improved varieties, the crop is heavy. This year, improved varieties are expected to account for 65 percent of the total crop. Improved varieties were only 58 percent last year.

U.S. PECAN PRODUCTION AND PRICES RECEIVED BY GROWER



U.S. WALNUT PRODUCTION AND PRICES RECEIVED BY GROWERS



Carryover stocks of pecans on September 30 were more than double those of a year ago. However, the pecan industry is still recovering from the disastrous 1976 season. Prices were at high levels last year, as distributors attempted to fill the marketing pipelines. Prices will continue at high levels this year reflecting the smaller pecan crop, smaller crops of almonds and walnuts, and high world prices for nearly all of the competing tree nuts.

Walnuts

Production of walnuts in California is forecast at 160 thousand tons, 17 percent below last season's crop and 13 percent below the 1976 crop. This decline also reflects the effects of the prolonged California drought which persisted through last summer and the mild winter last year. Nut sizes are comparable to last year but the set is below normal.

Shipments of shelled walnuts for the marketing year (August 1-July 31) totaled 94.8 million pounds, down slightly from the 100-million-pound record of a year earlier. In-shell shipments totaled 128.2 million pounds. The 1978/79 marketing year got off to a fast start; shipments of both shelled and in-shell walnuts during the first two months of 1978/79 (August 1-September 30) were larger than a year earlier.

According to the Walnut Marketing Board, more than 77 million pounds of in-shell and 7 million pounds of shelled walnuts were exported during the last marketing year (August 1, 1977-July 31, 1978). Our major customers are West Germany, Italy, The Netherlands, Spain, France, and Canada. The walnut industry is faced with a very favorable export market in the years ahead, as most competing producing countries have stagnant or declining production trends.

Grower prices for walnuts in California averaged $725 per ton last year. This was 16 percent higher than in 1976 and nearly three-fifths higher than in 1975. In view of the smaller crop, a small carryover, and high prices for all competing nuts, grower prices for walnuts this year should average substantially higher than last year.

Table 15—Seven citrus fruits: Production, use, and value, United States, 1973/74 through 1977/78[1]

Fruit and season	Utilization of production					
	Production[2]	Fresh		Processed		Value of production
		Quantity	Percentage	Quantity	Percentage	
	1,000 tons		*Percent*	*1,000 tons*	*Percent*	*1,000 dollars*
Oranges:						
1973/74	9,386	1,779	19.0	7,607	81.0	600,691
1974/75	10,241	2,151	21.0	8,090	79.0	653,759
1975/76	10,493	1,986	18.9	8,507	81.1	678,717
1976/77	10,546	1,854	17.6	8,692	82.4	811,196
1977/78	9,527	1,735	18.2	7,692	80.7	1,201,225
Grapefruit:						
1973/74	2,692	1,131	42.0	1,561	58.0	157,673
1974/75	2,504	1,145	45.7	1,359	54.3	154,439
1975/76	2,850	1,317	46.2	1,533	53.8	154,802
1976/77	3,032	1,141	37.6	1,891	62.4	175,467
1977/78	2,999	1,211	40.4	1,788	59.6	179,305
Lemons:						
1973/74	676	423	62.6	253	37.4	109,851
1974/75	1,118	438	39.2	680	60.8	113,226
1975/76	670	416	62.1	254	37.9	101,949
1976/77	988	497	50.3	491	49.7	92,500
1977/78	992	437	44.1	555	55.9	100,245
Limes:						
1973/74	42	19	45.2	23	54.8	7,560
1974/75	44	20	45.5	24	54.5	8,382
1975/76	43	23	53.5	20	46.5	10,012
1976/77	40	21	52.5	19	47.5	11,610
1977/78	18	13	72.2	5	27.8	8,786
Tangelos:						
1973/74	167	72	43.1	95	56.9	9,250
1974/75	212	107	50.5	105	49.5	12,361
1975/76	248	101	40.7	147	59.3	13,860
1976/77	216	103	47.7	113	52.3	13,296
1977/78	221	90	40.7	131	59.3	22,981
Tangerines:						
1973/74	210	154	73.3	56	26.7	23,032
1974/75	28	159	69.7	69	30.3	23,618
1975/76	236	160	67.8	76	32.2	25,976
1976/77	249	173	69.5	76	30.5	32,104
1977/78	234	137	58.5	97	41.5	35,089
Temples:						
1973/74	239	87	36.4	152	63.6	14,840
1974/75	239	86	36.0	153	64.0	14,575
1975/76	248	105	42.3	143	57.7	15,895
1976/77	171	53	31.0	118	69.0	12,882
1977/78	221	93	42.1	128	57.9	16,656
Total:						
1973/74	13,412	3,665	27.3	9,747	72.7	922,897
1974/75	14,586	4,106	28.2	10,480	71.8	980,360
1975/76	14,788	4,108	27.8	10,680	72.2	1,001,211
1976/77	15,242	3,842	24.7	11,400	75.3	1,149,055
1977/78	14,212	3,716	26.1	10,496	73.9	1,574,287

[1] Preliminary. [2] Production having value.

Data prepared from citrus production and utilization reports, CRB, ESCS.

Table 16—Selected citrus fruit: Use for processing by percentages of total production, 1970/71 through 1977/78

State, variety, and season	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78[1]
	Percent							
ORANGES:								
Florida:								
Temple	55.4	66.4	52.1	63.7	64.0	57.7	68.8	58.2
Early and midseason	90.0	91.2	92.6	93.4	92.3	93.4	94.7	93.5
Valencia	90.4	92.4	93.0	93.2	92.2	93.6	96.2	94.7
Total	90.2	91.8	92.8	93.3	92.3	93.5	95.2	94.1
California:								
Navel and miscellaneous	18.4	25.6	33.2	20.5	27.2	27.2	24.7	24.0
Valencia	43.4	48.7	50.4	35.7	43.5	44.5	32.5	40.9
Total	31.6	36.8	42.8	27.5	35.3	35.2	28.1	32.9
GRAPEFRUIT:								
Florida:								
Seedless	53.4	53.6	52.4	51.2	50.1	50.9	61.5	58.2
Pink	35.5	36.5	38.0	35.7	33.5	31.2	47.8	37.6
White	63.1	62.4	59.5	58.5	57.5	60.0	67.2	68.6
Other seeded	95.9	97.4	97.2	98.6	98.0	98.6	99.3	99.0
Total	65.1	63.7	62.4	61.1	57.9	58.5	68.2	64.9
Texas	41.2	37.6	46.3	49.5	36.3	32.1	47.7	44.5
TANGERINES:								
Florida	28.1	30.4	32.7	26.6	28.7	30.5	29.8	40.6
California	36.8	40.5	45.0	26.5	37.0	38.5	33.0	45.3
LEMONS:								
California	36.8	39.0	48.3	36.9	56.8	37.1	47.6	51.2
Arizona	59.4	57.5	59.4	40.2	73.3	43.2	58.2	73.0

[1] Preliminary.

Data prepared from citrus production and utilization reports, CRB, ESCS.

Table 17-Florida oranges used for frozen concentrate

Crop year	Florida orange and Temple production	Used for frozen concentrates		Yield per box
	Million boxes	*Million boxes*[1]	*Percent*	*Gallons*
1973/74	171.1	132.5	77.4	1.30
1974/75	178.6	135.5	75.9	1.31
1975/76	186.7	144.5	77.4	1.29
1976/77	190.6	147.8	77.5	1.07
1977/78	172.7	130.9	75.8	1.23

[1] Includes tangelos, Temples, tangerines, and K-early citrus.

Source: Crop Production, CRB, ESCS and Florida Canners' Association.

Table 18—Citrus fruit: Season average equivalent returns per box received by growers, by variety and utilization, by State and total United States, 1975/76-1977/78 seasons

Variety, States and U.S.	1975/76						1976/77						1977/78					
	Equivalent P.H.D.[1]			Equivalent on-tree			Equivalent P.H.D.[1]			Equivalent on-tree			Equivalent P.H.D.[1]			Equivalent on-tree		
	All	Fresh	Proc.	All	Fresh	Proc.	All	Fresh	Proc.	All	Fresh	Proc.	All	Fresh	Proc.	All	Fresh	Proc.
	Dollars																	
ORANGES:																		
Florida:																		
Early and midseason	2.69	3.25	2.65	1.69	2.25	1.65	2.99	2.75	3.00	1.89	1.65	1.90	5.02	5.95	4.95	3.87	4.80	3.80
Valencia	2.88	3.25	2.85	1.88	2.25	1.85	3.73	4.55	3.70	2.63	3.45	2.60	5.86	6.85	5.80	4.71	5.70	4.65
All	2.78	3.25	2.74	1.77	2.25	1.74	3.27	3.30	3.27	2.17	2.20	2.17	5.42	6.33	5.36	4.27	5.18	4.21
Temple	2.89	3.50	2.45	1.79	2.40	1.35	3.39	4.25	3.00	2.16	3.05	1.75	5.44	6.60	4.60	4.29	5.45	3.45
California:																		
Navel and misc.	3.12	4.18	.28	1.96	3.02	-.88	3.66	4.78	.26	2.42	3.54	-.98	6.06	7.84	.44	4.82	6.60	-.80
Valencia	2.80	4.17	1.10	1.60	2.97	-.10	3.94	5.38	.96	2.64	4.08	-.34	5.76	8.32	2.05	4.52	7.08	.81
All	2.97	4.18	.76	1.79	3.00	-.42	3.78	5.03	.61	2.52	3.76	-.66	5.90	8.06	1.49	4.66	6.82	.25
U.S.[2]	2.80	3.84	2.52	1.77	2.74	1.51	3.34	4.48	3.06	2.21	3.29	1.96	5.47	7.32	5.01	4.31	6.73	3.86
GRAPEFRUIT:																		
Florida:																		
Seedless	2.49	3.34	1.68	1.58	2.49	.71	2.60	3.50	2.03	1.66	2.60	1.07	2.72	3.67	2.04	1.77	2.77	1.06
Seeded	1.70	2.05	1.70	.85	1.20	.85	2.10	(3)	2.10	1.20	(3)	1.20	2.10	(3)	2.10	1.20	(3)	1.20
All	2.37	3.33	1.69	1.47	2.48	.75	2.51	3.50	2.05	1.58	2.60	1.10	2.62	3.67	2.06	1.68	2.77	1.10
Texas	1.74	2.13	.93	1.36	1.73	.57	1.88	2.43	1.27	1.34	1.88	.74	1.54	1.84	1.15	.91	1.22	.53
California	2.11	3.49	.72	1.27	2.63	-.11	2.29	3.84	.38	1.38	2.90	-.49	2.79	5.23	.22	1.91	4.33	-.65
Arizona	1.51	2.65	.70	.76	1.90	-.05	1.79	3.30	.40	.99	2.50	-.40	1.83	3.10	.15	1.03	2.30	-.65
U.S.	2.21	3.05	1.48	1.40	2.31	.61	2.35	3.30	1.77	1.49	2.47	.88	2.43	3.44	1.74	1.55	2.60	.83
LEMONS:																		
California	5.65	8.45	.90	3.95	6.75	-.80	3.65	6.10	.95	1.75	4.20	-.95	4.14	7.57	.86	2.24	5.67	-1.04
Arizona	6.64	11.00	.90	4.79	9.15	-.95	3.17	6.25	.95	1.27	4.35	-.95	2.77	7.95	.85	.87	6.05	-1.05
U.S.	5.79	8.77	.90	4.07	7.05	-.82	3.56	6.12	.95	1.66	4.22	-.95	3.84	7.62	.86	1.94	5.72	-1.04
TANGERINES:																		
Florida	4.81	6.20	1.65	3.02	4.45	-.25	5.26	6.50	2.35	3.29	4.60	.20	6.50	8.75	3.20	4.59	6.90	1.20
California	4.64	7.01	.84	3.27	5.65	-.52	5.87	8.40	.74	4.52	7.05	-.61	5.90	10.10	.84	4.55	8.75	-.51
Arizona	5.44	7.30	.85	4.09	5.95	-.50	6.25	8.20	.75	4.90	6.85	-.60	7.77	11.15	.85	6.42	9.80	-.50
U.S.	4.85	6.52	1.33	3.21	4.91	-.36	5.56	7.28	1.64	3.86	5.61	-.15	6.50	9.45	2.23	4.82	7.80	.50
TANGELOS:																		
Florida	2.52	3.20	2.05	1.42	2.10	.95	2.77	2.85	2.70	1.42	1.55	1.33	4.69	5.55	4.10	3.54	4.40	2.95
LIMES:																		
Florida	9.27	15.40	2.00	6.70	12.60	-.30	11.61	20.50	2.20	8.60	17.15	-.45	19.11	24.95	2.55	15.72	21.35	-.25

[1] P.H.D.—Packing-house door. [2] Excludes Temples. [3] Fresh sales insignificant.

Source: Agricultural Prices, CRB, ESCS.

Table 19—Frozen concentrated citrus juices: Florida canners' stocks, packs, imports, supplies, and movement, current season with comparisons

Item and season	Carryin	Pack		Imports and other supply		Supply		Movement		Stocks[1]
		To date[1]	Total season	To date[1]	Total season	To date[1]	Total season	To date[1]	Total season	
	1,000 gallons									
Orange:										
1976/77	53,709	158,035	158,035	19,206	22,063	177,241	233,807	185,035	195,528	45,015
1977/78	25,256	161,204		25,420		211,880		166,482		45,667
Grapefruit:										
1973/74	3,581	9,026	9,026	—	—	12,607	12,607	6,845	7,710	5,762
1974/75	4,897	7,847	7,847	—	—	12,744	12,744	7,471	8,509	5,273
1975/76	4,235	9,316	9,316	144	211	13,695	13,762	9,295	10,456	4,400
1976/77	3,306	11,258	11,258	1,146	1,158	15,710	15,722	10,456	11,643	5,254
1977/78	3,854	13,693		355		17,902		11,589		6,313
Tangerine:										
1973/74	211	1,019	1,019	—	—	1,230	1,230	822	831	408
1974/75	399	1,147	1,147	—	—	1,546	1,546	1,065	1,153	481
1975/76	393	1,111	1,111	15	15	1,519	1,519	1,086	1,137	433
1976/77	382	926	926	21	21	1,329	1,329	762	1,041	567
1977/78	388	1,672		—		1,960		1,372		587

[1] For the 1977/78 season, week ending October 14; 1976/77, October 15; 1975/76, October 16; 1974/75, October 18 and 1973/74, October 19. These respective dates include data through the 46th week of each season except 1977/78 (45th week).

Source: Florida Canners Association.

Table 20—Chilled citrus products: Packs, stocks, supply, and movement, Florida, 1973/74 through 1977/78

Item and season[1]	Beginning stocks	Pack[2]	Total supply	Season movement	Ending stocks
			1,000 gallons		
Orange juice, s.s.:					
1973/74	18,420	135,313	153,733	137,347	16,386
1974/75	16,386	154,478	170,864	154,085	16,779
1975/76[3]	16,779	174,804	191,583	173,558	18,025
1976/77	18,025	178,685	196,710	180,903	15,807
1977/78	15,807	184,966	200,773	185,088	15,685
Grapefruit juice, s.s.:					
1973/74	2,221	17,376	19,597	17,916	1,681
1974/75	1,681	20,535	22,216	20,768	1,448
1975/76[3]	1,448	24,538	25,986	24,583	1,403
1976/77	1,403	25,074	26,477	25,111	1,366
1977/78	1,366	25,460	26,826	24,921	1,906
Grapefruit sections:					
1973/74	383	1,894	2,277	1,836	441
1974/75	441	1,634	2,075	1,737	338
1975/76[3]	338	1,787	2,125	1,891	234
1976/77	234	2,095	2,329	1,982	347
1977/78	347	1,636	1,983	1,676	307
Orange sections:					
1973/74	286	765	1,051	804	247
1974/75	247	791	1,038	920	118
1975/76[3]	118	1,126	1,244	1,027	217
1976/77	217	797	1,014	827	187
1977/78	187	860	1,047	716	331
Citrus salad:					
1973/74	781	4,268	5,049	4,163	886
1974/75	886	3,465	4,351	3,724	627
1975/76[3]	627	4,027	4,654	3,599	1,055
1976/77	1,055	2,532	3,587	3,098	489
1977/78	489	2,945	3,434	2,611	823

[1] Season beginning approximately October 1. [2] Packs of chilled juices include products of fresh fruit and frozen concentrate and excludes reprocessed single-strength bulk. [3] 1975/76 season incorporates 53 weeks.

Prepared from reports of Florida Canners Association.

Table 21—Canned citrus juices and fruit: Florida canners' stocks, packs, supplies, and movement, current season with comparisons

Item and season	Beginning stocks	Pack	Supply	Movement	Ending stocks
	1,000 cases, 24 No. 2's				
Juices[2]					
Orange:					
1973/74	2,887	10,885	13,772	11,133	2,639
1974/75	2,639	10,737	13,376	11,349	2,027
1975/76[3]	2,027	10,635	12,662	10,746	1,916
1976/77	1,916	10,767	12,683	10,592	2,091
1977/78	2,091	11,654	13,745	11,865	1,880
Grapefruit:					
1973/74	4,203	20,576	24,779	18,780	5,999
1974/75	5,999	15,951	21,950	18,129	3,821
1975/76[3]	3,821	18,439	22,260	18,623	3,637
1976/77	3,637	18,029	21,666	17,194	4,472
1977/78	4,472	16,789	21,261	17,760	3,501
Grapefruit reconstituted:					
1973/74	27	160	187	153	34
1974/75	34	443	477	391	86
1975/76[3]	86	487	573	528	45
1976/77	45	780	825	575	250
1977/78	250	457	707	647	60
Blend:					
1973/74	402	1,782	2,184	1,702	482
1974/75	482	1,493	1,975	1,699	276
1975/76[3]	276	1,687	1,963	1,566	397
1976/77	397	1,308	1,705	1,517	188
1977/78	188	1,664	1,852	1,487	364
Tangerine:					
1973/74	7	18	25	19	6
1974/75	6	12	18	17	1
1975/76[3]	1	19	20	20	(4)
1976/77	(4)	35	35	20	15
1977/78	15	8	23	21	2
Canned fruits:					
Grapefruit sections:					
1973/74	323	3,027	3,350	2,645	705
1974/75	705	2,236	2,941	2,027	914
1975/76[3]	914	1,602	2,516	1,906	610
1976/77	610	1,722	2,332	1,950	382
1977/78	382	1,753	2,135	1,842	293
Orange sections:					
1973/74	7	17	24	15	9
1974/75	9	18	27	19	8
1975/76[3]	8	26	34	17	17
1976/77	17	10	27	21	6
1977/78	6	16	22	17	4
Citrus salad:					
1973/74	72	117	189	158	31
1974/75	31	206	237	152	85
1975/76[3]	85	112	197	126	71
1976/77	71	84	155	124	31
1977/78	31	111	142	114	29

[1] Season beginning approximately October 1. [2] Single strength. [3] 1975/76 season incorporates 53 weeks. [4] Less than 500 cases.

Compiled from Florida Canners Association reports.

Table 22—Canned noncitrus fruit and juice: Canners' carryin, pack, supplies, and shipments, current season with comparisons

Item and season[1]	Carryin	Pack	Total supply	Total season shipments
	1,000 equivalent cases, 24 No. 2½'s			
Apricots:[2]				
1974/75	467	1,987	2,454	2,218
1975/76	236	4,421	4,657	3,124
1976/77	1,534	2,387	3,921	3,051
1977/78	870	2,269	3,139	2,687
1978/79	452	2,127	2,579	3,051
Cherries, RSP:				
1974/75	5	1,188	1,193	1,135
1975/76	58	1,273	1,331	1,283
1976/77	48	438	486	477
1977/78	9	605	614	606
1978/79	8	582	590	
Cherries, sweet:				
1974/75	127	623	750	460
1975/76	290	412	702	487
1976/77	215	464	679	551
1977/78	128	500	628	497
1978/79	131	485	616	
Pineapple:				
1974/75	5,189	13,913	19,102	14,928
1975/76	4,174	14,852	19,026	13,589
1976/77	5,437	17,270	22,707	15,709
1977/78	6,998	18,424	25,421	16,902
1978/79	8,520			
	1,000 equivalent cases, 24 No. 2's			
Canned juice:				
Single strength pineapple:				
1974/75	3,848	8,448	12,296	10,180
1975/76	2,116	8,713	10,829	8,594
1976/77	2,235	10,205	12,440	9,614
1977/78	2,826	11,977	14,803	11,356
1978/79	3,447			
	1,000 equivalent cases, 6 No. 10's			
Concentrated pineapple:				
1974/75	802	899	1,701	1,312
1975/76	389	911	1,300	1,043
1976/77	257	1,157	1,414	980
1977/78	437	1,319	1,756	1,268
1978/79	488			

[1] Season beginning July 1 for RSP cherries and June 1 for all other items. [2] California only.

Sources: National Food Processors Association, Canners League of California, and Pineapple Growers Association of Hawaii.

Table 23—U.S. wholesale prices of selected dried and frozen fruit items, by months, 1975-78

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Dollars per cases											
DRIED FRUIT:												
Prunes (24-1 lb. pkg.):												
1975	9.571	9.571	9.571	9.490	9.049	9.049	8.575	8.575	8.575	8.575	8.575	8.673
1976	8.526	8.428	8.526	8.918	8.918	9.065	9.065	9.424	9.424	9.914	9.914	9.914
1977	10.274	10.274	10.274	10.355	10.355	10.355	10.355	10.486	10.486	11.286	11.629	11.629
1978	11.793	11.858	11.858	11.858	11.923	11.923	11.989	11.989	12.609			
Raisins (24-15 oz. pkg.):												
1975	11.650	11.650	11.650	11.527	11.282	11.282	11.282	11.282	11.282	11.527	11.650	11.650
1976	11.748	11.748	11.870	11.870	11.870	11.993	11.993	11.993	11.993	15.741	20.580	20.825
1977	20.825	20.825	20.825	20.825	20.825	20.335	19.845	20.090	20.090	16.048	16.109	16.109
1978	15.925	15.680	15.680	15.864	16.109	16.268	16.268	17.640	17.824			
FROZEN FRUIT:												
Strawberries (12-10 oz. pkg.):												
1975	4.219	4.219	4.219	4.218	4.218	4.218	4.218	4.218	4.218	4.285	4.285	4.285
1976	4.285	4.285	4.285	4.407	4.407	4.407	4.648	4.648	4.648	4.679	4.679	4.679
1977	4.679	4.730	4.730	4.730	4.730	4.730	4.813	4.936	4.936	4.936	4.936	4.936
1978	4.936	4.941	5.076	5.076	5.076	5.076	5.076	5.113	5.187			
FROZEN JUICE:												
Orange, conc. (12-6 oz. cans):												
1975	2.244	2.254	2.254	2.254	2.254	2.254	2.246	2.246	2.246	2.358	2.383	2.383
1976	2.383	2.352	2.352	2.383	2.383	2.383	2.187	2.187	2.187	2.187	2.187	2.089
1977	2.040	2.776	2.752	2.752	2.752	2.910	2.910	3.101	3.223	3.223	3.459	3.508
1978	3.508	3.508	3.514	3.514	3.514	3.514	3.514	3.514	3.514			

Source: Bureau of Labor Statistics, U.S. Department of Labor.

Table 24—U.S. monthly average price indexes for fruit

Item	1977					1978								
	Annual	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
	(1967=100)													
Wholesale price index:														
Fresh fruit	177.5	192.1	183.6	176.5	160.0	177.6	183.2	188.2	200.1	194.6	214.8	253.6	242.3	241.2
Citrus fruit	168.5	237.2	206.9	178.0	177.5	159.5	178.1	164.5	171.7	156.7	173.4	213.6	247.0	228.1
Other fruit	181.5	169.9	171.5	174.5	164.6	184.6	184.2	197.8	211.7	210.7	232.3	270.1	238.3	245.4
Dried fruit	338.4	356.7	283.0	286.3	286.3	285.8	284.3	284.3	285.1	291.2	292.0	293.0	307.1	317.5
Canned fruit and juice	190.4	192.8	194.5	198.8	201.0	202.7	204.1	204.9	205.7	207.4	210.3	213.9	216.9	220.0
Canned fruit	178.9	179.9	181.0	182.1	182.2	183.6	183.1	183.5	184.9	186.3	190.1	194.1	199.0	201.4
Canned fruit and juice	210.0	214.4	217.1	226.1	231.4	233.4	237.5	239.0	238.9	241.2	242.7	245.8	246.1	250.4
Frozen fruit and juice	196.5	212.6	212.6	225.9	228.6	228.6	228.7	229.9	229.9	229.9	229.9	229.9	230.1	187.9
Consumer price index:														
Fresh fruit[2]	185.0	180.4	183.0	186.7	186.5	189.1	191.0	200.5	207.1	222.4	235.8	241.4	252.8	248.2
Index of fruit prices: received bt growers[1]	161	179	222	195	185	187	194	203	194	222	257	258	244	273

[1] Index for fresh and processed. [2] Jan. 1978 new index entitled All Urban Consumers, replaces previous index.

Source: Bureau of Labor Statistics and Agricultural Prices, CRB.

Table 25—U.S. monthly average fruit prices received by growers

Commodity and unit	1977				1978								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Apples for fresh use (cents/lb.)	13.3	12.7	12.4	12.6	12.6	13.6	14.8	15.2	20.1	25.5	22.8	15.0	15.8
Pears for fresh use ($/ton)	173.0	192.0	183.0	201.0	209.0	144.0	262.0	449.0	673.0	—	—	324.0	305.0
Peaches for fresh use (cents/lb.) ...	12.3	—	—	—	—	—	—	—	17.3	22.1	15.6	14.7	17.3
Strawberries for fresh use (cts./lb.)	41.7	42.5	55.0	—	75.0	63.8	52.4	33.5	28.7	33.7	35.7	40.1	32.6
Oranges for: ($/box)[1]													
Fresh use	4.80	6.68	7.43	5.31	5.99	6.02	5.69	5.06	5.40	5.82	6.05	8.74	9.84
Processing	-.34	-.10	3.13	3.25	3.56	3.86	4.05	3.82	4.33	4.52	4.28	.81	.81
All	3.18	4.93	5.03	3.75	3.88	4.20	4.44	4.08	4.49	4.69	4.63	5.30	6.20
Grapefruit for: ($/box)[1]													
Fresh use	3.68	4.35	2.80	2.71	2.32	1.99	2.03	1.67	2.28	3.44	5.66	6.58	8.68
Processing	-.62	.22	1.01	1.03	.95	.90	.95	.99	.69	.05	-.67	-.68	-.70
All	2.13	2.74	1.87	1.88	1.59	1.34	1.28	1.22	1.28	1.70	3.06	3.01	6.42
Lemons for: ($/box)[1]													
Fresh use	6.45	9.10	6.12	5.49	5.40	4.88	4.07	4.09	4.50	6.50	9.05	14.64	10.31
Processing	-.95	-.95	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05
All	3.75	4.64	1.76	1.37	1.30	.56	.59	.93	1.41	3.91	6.98	11.75	6.39
Tangerines for: ($/box)[1]													
Fresh use	—	8.00	7.06	7.21	8.84	8.12	8.44	9.38	6.95	—	—	—	—
Processing	—	-1.00	.93	.98	.83	-.50	-.50	-.50	-.50	-.51	—	—	—
All	—	5.72	5.25	4.69	4.74	5.01	3.64	5.18	.27	-.51	—	—	—

[1] Equivalent on-tree returns.

Source: Agricultural Prices, CRB, ESCS.

Table 26—Fresh fruit: Retail prices, marketing margin, and grower and packer return per pound, sold in New York City, seasonal average, 1975/76-1977/78

Commodity and season	Retail price (cents)	Marketing margin		Grower and packer return[1] (f.o.b. shipping point price)[2]	
		Cents	Percentage of retail price	Cents	Percentage of retail price
Apples, Eastern Delicious:					
1977/78	37.9	16.4	43	21.5	57
1976/77	34.8	15.4	44	19.4	56
1975/76	25.6	10.2	40	15.4	60
Apples, Eastern McIntosh:					
1977/78	41.4	24.8	60	16.6	40
1976/77	37.8	19.2	51	18.6	49
1975/76	31.3	19.7	63	11.6	37
Apples, Western Delicious:					
1977/78	51.7	25.0	48	26.7	52
1976/77	45.0	23.1	51	21.9	49
1975/76	41.5	25.2	61	16.3	39
Grapes, Emperor:					
1977/78	79.6	50.7	64	28.9	36
1976/77	64.1	36.9	58	27.2	42
1975/76	56.8	36.5	64	20.3	36
Grapes, Thompson Seedless:					
1977	97.2	52.3	54	44.9	46
1976	77.5	47.9	62	29.6	38
1975	69.1	40.7	59	28.4	41
Grapefruit, Florida:					
1977/78	22.6	16.4	73	6.2	27
1976/77	22.1	15.5	70	6.6	30
1975/76	19.2	13.0	68	6.1	32
Lemons, Western:					
1977/78	51.3	32.5	63	18.8	37
1976/77	44.5	28.7	64	15.8	36
1975/76	44.8	26.4	59	18.4	41
Oranges, California Navel:					
1977/78	39.2	32.5	63	18.8	37
1976/77	28.5	18.1	64	10.4	36
1975/76	24.7	14.8	60	9.9	40
Oranges, California Valencia:					
1977	30.2	18.5	61	11.7	39
1976	28.7	18.6	65	10.1	35
1975	28.2	18.6	66	9.6	34
Oranges, Florida:					
1977/78	23.2	12.4	53	10.8	47
1976/77	20.5	13.6	66	6.9	34
1975/76	19.7	13.4	68	6.3	32

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[1] For quantity of product equivalent to retail unit sold to consumers. Because of waste and spoilage during marketing, equivalent quantity exceeds retail unit. [2] Production area and season: Apples, Eastern Delicious-*New York State* (Oct.-May); Apples, Eastern McIntosh-*New York State* (Nov.-May); Apples, Western Delicious-*Washington* (Oct.-June); Grapes, Emperor-*California* (Oct.-Apr.); *Grapes, Thompson Seedless*-California *(Oct.-Nov.); Lemons-California* (Aug.-July); *California*-Navel Oranges (Dec.-May); *California* Valencia, Oranges (May-Nov.); *Florida* Oranges-(Nov.-May).

Table 27—U.S. exports of selected dried fruits and tree nuts by destination, 1973/74-1977/78 seasons

Item and season[1]	Canada	Europe				Other	Total[3]
		United Kingdom	EC[2]	Other	Total[3]		
	Metric tons						
Prunes:							
1973/74	5,066	5,672	21,675	13,689	41,036	7,609	53,711
1974/75	4,752	3,675	17,218	11,004	31,897	6,504	43,154
1975/76	4,140	3,278	27,061	15,072	45,411	9,438	58,989
1976/77	4,193	2,100	18,570	14,013	34,684	8,913	47,789
1977/78	3,756	2,565	29,922	9,468	41,955	8,138	53,849
Raisins:							
1973/74	5,849	6,193	5,614	11,636	23,444	15,912	45,205
1974/75	7,218	6,698	5,701	8,987	21,386	21,606	50,210
1975/76	8,660	7,859	6,206	12,823	26,889	29,328	64,876
1976/77	6,141	2,599	3,417	9,252	15,269	15,045	36,455
1977/78	7,208	2,394	10,005	8,027	20,426	25,603	53,237
Shelled almonds:							
1973/74	1,277	3,346	11,436	4,326	19,108	10,519	30,904
1974/75	1,121	3,083	22,522	8,326	33,930	8,526	43,577
1975/76	1,513	3,795	21,280	8,385	33,460	12,215	47,187
1976/77	2,422	4,062	24,516	9,165	37,803	19,855	60,080
1977/78	2,470	4,244	26,204	8,165	38,613	20,155	61,238

[1] Season beginning September 1 for prunes and raisins and August 1 for almonds. [2] 1973/74-1876/77, Belgium-Luxembourg, France, West Germany, Italy and Netherlands; starting with season 1977/78 added Denmark and Ireland to the EC countries. [3] Totals do not add due to rounding.

Source: Foreign Agricultural Service.

U.S. AND WORLD CITRUS PRODUCTION TRENDS AND MARKET EXPANSION ALTERNATIVES

by Lester H. Myers and Jules V. Powell*[1]

ABSTRACT: World citrus production has increased faster than world population since 1965. This trend is expected to continue through the early to mid-1980's. The importance to citrus-producing countries of increased per capita consumption places critical emphasis on the availability of alternative product forms, efficient international trade flows and quality improvement.

Citrus-producing countries will need to rely increasingly on processed citrus products to buffer supply fluctuations and long term growth trends. This will be more easily accomplished with oranges and lemons than with grapefruit and tangerines. The production of quality processed products should result in expanded consumer consumption and trade.

Finally, world trade negotiators need to recognize a proper balance between: (a) citrus trade incentives; (b) plant disease and insect protection; and (c) the stability and growth of domestic citrus industries when establishing tariff and non-tariff barriers to trade.

KEYWORDS: Marketing, citrus, competition, world trade.

World citrus production continues to increase at a faster rate than world population growth. Between the base period of 1961-65 and 1976 the production of oranges, grapefruit, tangerines, and lemons increased 102 percent, 87 percent, 173 percent, and 61 percent, respectively. World population, on the other hand, increased only 23 percent from 1965 to 1976 (7).[2] This trend suggests increasing per capita citrus consumption rates over time. Many factors can induce increased per capita consumption. Among them are improved distribution, new product forms, better storage, more international trade, higher consumer incomes, advertising and promotion, and lower prices. Lack of foreign markets and/or processing alternatives, along with poor transportation facilities from producing region to population centers, enhances price uncertainty and chronic oversupply problems.

Although data on domestic consumption are lacking for many countries, some indication of the distribution of processing facilities across producing countries is given in export statistics. Table 1 is a summary of the number of countries producing various citrus products compared with the number exporting various processed forms. It is assumed that a large proportion of the citrus-producing countries not exporting processed products have neither processing facilities nor domestic consumption of processed pure citrus juice products.

Brazil is the world's largest exporter of frozen concentrated orange juice (FCOJ). However, trade

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[1] This paper is largely extracted from a paper entitled 'World Citrus Production and Trade: Current Situation and Future Outlook,' by Lester H. Myers and W. Grierson presented at the 3rd International Citrus Congress, Sydney, Australia, August 1978.

[2] Numbers in parentheses refer to references found at the end of the paper.

Table 1—Number of countries producing and trading various types of citrus

Type	Countries		
	Producing[1]	Exporting juice[2]	Exporting sections[3]
	Numbers		
Oranges, tangerines & Clementines	92	14	5
Grapefruit	49	9	7
Lemons	66	8	—

[1] Food and Agriculture Organization, 1977. 1976 FAO Production Yearbook. [2] FAS, USDA World Citrus Production and Trade Statistics, FCF 1-78. [3] FAS, USDA Foreign Agricultural Circular FCF 2-76.

sources estimate that only 5 to 6 percent of Brazilian processed juice production is consumed domestically (10). The United States is the largest producer of concentrated orange juice, yet in 1976 U.S. exports were only 41 percent as large as Brazil's. U.S. consumption of citrus is weighted heavily toward processed juice compared to fresh fruit.

World Citrus Production Trends

Oranges

Although 92 countries produced oranges in 1976, only 5 of them produced 66 percent of the world's supply, and the United States and Brazil produced nearly 50 percent of the world's total (table 2). Orange production has become more concentrated over time; the top five countries produced only 59 percent of the world supply during 1961-65.

If FAO production projections prove correct, the trend toward concentration may be reversed. The FAO projects 1980 orange production at 37.8 million metric tons, an increase of nearly 11 percent over 1976 production. The United States and Brazil are expected to produce 44 percent of the 1980 supply (table 2). Countries which are expected to have rapidly increasing orange supplies include Cuba, Egypt, Morocco, Spain, Cyprus, and Argentina. By 1980 these 6 countries are expected to produce about 17 percent of the world's orange supply compared with 12 percent in 1976.

Tangerines

Tangerine production is quite concentrated among countries. During 1976, nearly 53 percent was produced in Japan, while the top five countries produced 80 percent (table 3). As with oranges, tangerine production has become increasingly concentrated since the 1961-65 period, but it is expected to be more dispersed by 1980.

Japan's production is expected to level off after a highly expansionary planting period from 1963 through 1974. Due to low prices and limited market alternatives, the Japanese have implemented subsidized acreage diversion and government crop-thinning programs. They have also diverted increasing amounts of Mikan oranges for processing uses (12).[3]

Overall, world tangerine production is projected by the FAO to increase 16.4 percent between 1976 and 1980. While Japanese production is expected to stabilize, Cuba, Spain, and Morocco are expected to achieve substantial increases in tangerine and 'Clementine' crops.

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[3] Although commonly referred to as "oranges," 'Onshiu,' 'Mikan,' and 'Satsuma' are all genetically closer to tangerines than to true oranges.

Table 2—Actual and projected growth trends in world orange production

Country	World production					
	Average 1961-65		1976		Projected 1980	
	Mil. MT[1]	*Percent*	*Mil. MT*	*Percent*	*Mil. MT*	*Percent*
USA	4.33	25.7	9.51	27.9	9.98	26.4
Brazil	2.01	11.9	7.37	21.6	6.70	17.7
Mexico	1.05	6.2	2.30	6.7	1.80	4.8
Spain	1.62	9.6	1.74	5.1	2.30	6.1
Italy	0.89	5.3	1.62	4.8	1.90	5.0
Other	6.96	41.3	11.55	33.9	15.09	40.0
Total	16.86	100.0	34.09	100.0	37.77	100.0

[1] Mil. MT = million metric tons.

Sources: 1976 FAO Production Yearbook, Vol. 30, United Nations, Rome.

Table 3—Acutal and projected growth trends in world tangerine production

Country	World production					
	Average 1961-65		1976		Projected 1980	
	Mil. MT[1]	*Percent*	*Mil. MT*	*Percent*	*Mil. MT*	*Percent*
Japan	1.06	39.5	3.87	52.9	3.80	44.6
USA	.35	13.0	.67	9.1	.70	8.2
Spain	.15	5.6	.66	9.0	.90	10.5
Italy	.15	5.6	.36	4.8	.40	4.7
Brazil	.17	6.3	.32	4.4	.40	4.7
Other	.80	30.0	1.45	19.8	2.33	27.3
Total	2.68	100.0	7.33	100.0	8.53	100.0

[1] Mil. MT = million metric tons.

Source: Food and Agriculture Organization (FAO).

Grapefruit

World grapefruit production increased nearly 86 percent between 1961-65 and 1976 (table 4). This trend is expected to continue with projected 1980 crop levels being almost 25 percent greater than for 1976. The United States has always had a dominant share of the world's production; however, its share is declining over time and is expected to be about 56 percent in 1980. Cuba, Argentina, and South Africa are high growth countries for grapefruit. Cuba is expected to have a significant share (7 percent) of world supply in 1980, compared with less than 1 percent in 1976.

Of all citrus, grapefruit may be the one that faces the most severe economic pressures in the future. Consumption will need to increase over 6 percent per year to keep up with production at constant price levels. Because of increasing production costs and low current prices, demand expansion rates of substantially greater than 6 percent per year will be required for grapefruit producers to realize returns on investment comparable to those realized by other agricultural and non-agricultural enterprises. Unhindered world trade in fresh and processed grapefruit is essential if the substantial investments in grapefruit groves throughout the world are to be profitable. Development of additional fresh markets for U.S. grapefruit is especially critical since grower returns for processed grapefruit are much lower than fresh fruit returns.

Lemons and Limes

Of all the types of citrus, world lemon and lime production is the least concentrated among countries. Of 66 producing countries, the top five had slightly over 60 percent of the world's production in 1976 (table 5). This distribution is not expected to change greatly, even though total production is expected to increase nearly 18 percent between 1976 and 1980.

Market Expansion Through Product Proliferation

With world production of citrus expanding at a rate faster than population growth, the development of new and expanded markets becomes of paramount importance. Market expansion becomes difficult when the basic commodity cannot be stored, is produced in a concentrated geographic area located at long distances from major potential consuming regions, and production and quality vary due to uncertain weather conditions. One approach to minimize the impact of several of these problems is to develop the capability to process raw fruit into various products. It seems evident that the world's citrus producers will increasingly need to emphasize the development of processing capacity and the development of markets for processed products.

Historically, the development of processed products has proceeded along two lines depending on the marketing objectives and economic development of the producing country. These patterns are:

1. Development of processing capability primarily to supply products to domestic consumers (e.g., the United States).
2. Development of processing capability to provide products primarily for export markets (e.g., Brazil, Argentina, and Mexico).

The use of processed citrus markets to increase total per capita consumption of citrus can best be illustrated using the U.S. experience. Prior to the 1946-47 crop season, no oranges were used to produce FCOJ, and about 70 percent of the fruit grown in Florida was sold in fresh form. Total U.S. orange and tangerine consumption during 1944 totaled slightly over 57 pounds per capita, of which 50 pounds were consumed in fresh form (fig. 1).

Florida production of round oranges (i.e., C. Sinensis) was 1.9 million metric tons in 1943-44.

Table 4—Acutal and projected growth trends in world grapefruit production

Country	World production					
	Average 1961-65		1976		Projected 1980	
	Mil. MT[1]	*Percent*	*Mil. MT*	*Percent*	*Mil. MT*	*Percent*
USA	1.45	67.4	2.58	64.3	2.80	56.0
Israel	.11	5.1	.46	11.5	.43	8.6
Argentina	.05	2.3	.16	4.0	.20	4.0
China	.09	4.2	.12	3.0	N.A.	N.A.
South Africa	.05	2.3	.08	2.0	.18	3.6
Cuba	.01	0.5	.03	0.7	.34	6.8
Other	.39	18.2	.58	14.5	1.05	21.0
Total	2.15	100.0	4.01	100.0	5.00	100.0

[1] Mil. MT. = million metric tons. N.A. = Not Available.

Source: Food and Agriculture Organization (FAO).

Table 5—Actual and projected growth trends in world lemon and lime production

Country	World production					
	Average 1961-65		1976		Projected 1980	
	Mil. MT[1]	*Percent*	*Mil. MT*	*Percent*	*Mil. MT*	*Percent*
Italy	.55	19.6	.82	18.2	.82	15.4
USA	.55	19.6	.65	14.4	.90	17.0
Mexico	.17	6.0	.60	13.3	.60	11.3
India	.44	15.6	.45	10.0	N.A.	N.A.
Turkey	.07	2.5	.28	6.2	.30	5.6
Other	1.03	36.7	1.71	37.9	2.69	[2] 50.7
Total	2.81	100.0	4.51	100.0	5.31	100.0

[1] Mil MT = million metric tons. N.A. = Not Available. [2] Includes India which is expected to have approximately 10% in 1980.

Source: Food and Agriculture Organization (FAO).

By 1967-68 the production had increased to 4.1 million metric tons, but U.S. per capita consumption was still at 1944 levels; i.e., slightly under 57 pounds per capita. The big change, however, was the form in which the oranges were consumed. While in 1944, 50 pounds were consumed fresh and 7 pounds in processed form; during 1968, 41 pounds were consumed as processed juice and 15 pounds as fresh. Thus, U.S. per capita consumption of oranges in all forms remained fairly constant for 24 years, but consumption of fresh oranges declined 70 percent. The initial impact of the development of FCOJ was a negative impact on fresh sales as is shown in figure 1.

Since 1968, dramatic increases in per capita U.S. consumption of orange products have been realized (fig. 1). By 1976, consumption in all forms had increased to nearly 89 pounds per capita. Fresh consumption increased from 15 to 17 pounds per capita. Consumption of juices increased by the equivalent of 30 pounds of oranges per capita to 72 pounds in 1976. Note that from 1968 on, the increased juice consumption represented true market growth and not a substitution of processed for fresh oranges.

The consumption increase from 1968 to 1976 can be primarily traced to: (a) quality improvement in FCOJ, (b) development of chilled orange juice (COJ), and (c) a large-scale, professional marketing program. While all three are critical, the importance of processed product development cannot be overemphasized.

Since the development of processed products in the United States was primarily oriented toward domestic consumption, the products which evolved were produced and marketed in consumer-size packages and, in the case of FCOJ, at Brix levels suitable for direct consumer use.[4] Recently the trend has been toward a larger allocation of product to COJ which has assumed the 'convenience food' role once held by FCOJ. Also,

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[4] The term Brix originally was defined as 'percent by weight of sucrose.' The citrus industry uses the term Brix to define the 'percent total soluble solids' where soluble solids include citric acid and vitamin C as well as sugars. Concentrate of 45° Brix (45 percent soluble solids) is packed for consumer use in Florida.

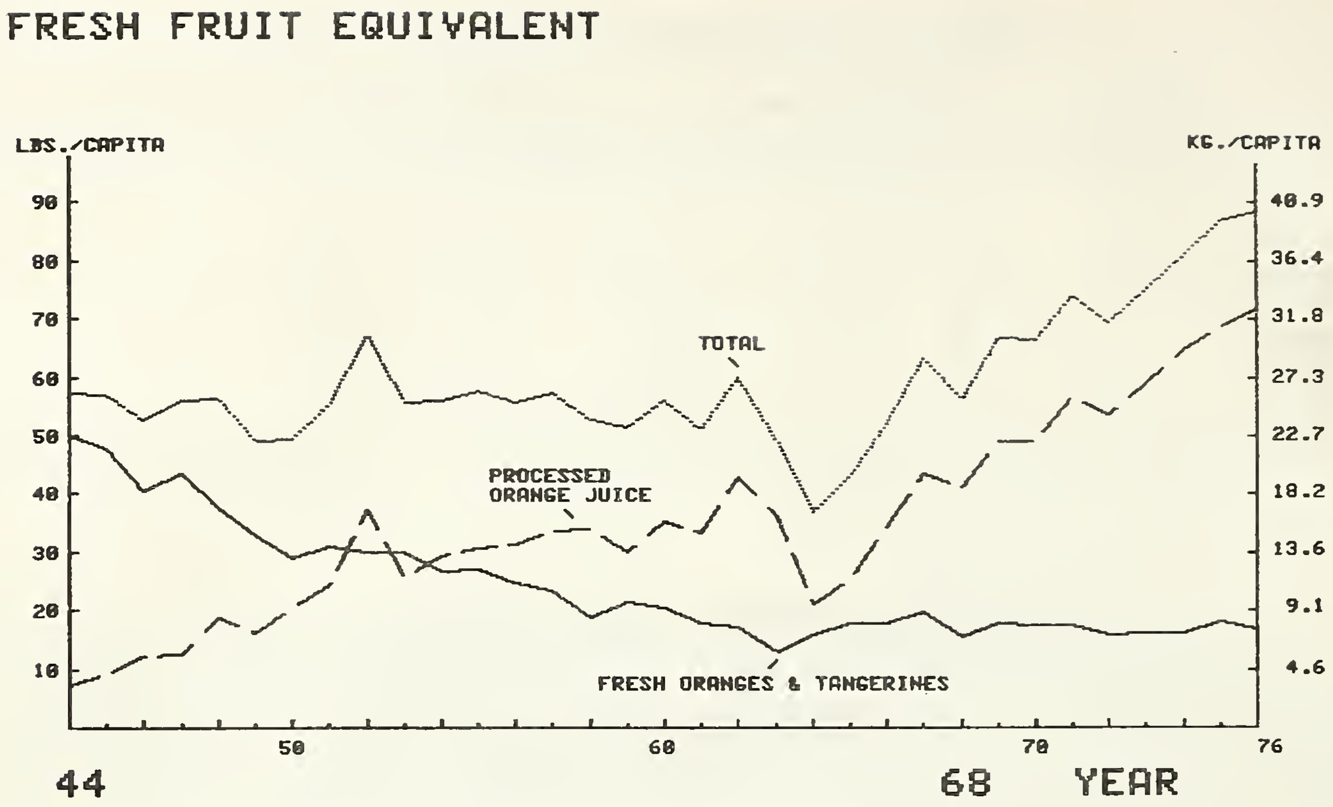

FIG. 1. PER CAPITA U.S. CONSUMPTION PATTERNS FOR FRESH AND PROCESSED ORANGES.

SOURCE: (2)

there is an increasing use of reconstituted FCOJ to produce chilled and canned products. This has allowed U.S. producers to blend out seasonal variations in juice quality and to provide the product to consumers throughout the year.

Market Expansion Through Trade

Except for the United States, the world's primary citrus-producing regions tend to be geographically separated from primary consuming regions, which emphasizes the importance of international trade and trade barriers. When trade flows based on economic comparative advantage are altered by excessive tariff and non-tariff barriers, consumers and producers alike suffer long-term economic consequences. Needed resource adjustments can be delayed or ignored leading to inefficient production, higher consumer prices, and lower product quality. This is particularly true for a tree crop such as citrus for which rapid production changes are impossible in the upward direction and unlikely in the downward direction.

Trade Restrictions

United States

U.S. trade restrictions on citrus products are primarily monetary rather than quantitative. Volume restrictions do not exist; however, fresh fruit and processed products must meet plant disease and insect protection measures and the same minimum standards of quality and maturity that are imposed on domestic inter-state shipments.

U.S. import duties on frozen concentrated orange and grapefruit juice are 35 cents per equivalent single-strength gallon (11.8° Brix). The duties are specific rather than ad valorem. Recently the Florida citrus industry argued that a change from specific duties to an ad valorem basis would unduly restrict imports during years when domestic supplies were short and would not be protective enough during large production years. It is the industry's conclusion that specific rates serve the interests of both consumers and domestic producers better than ad valorem duties (4).

Under the current U.S. tariff laws, 99 percent of import tariffs are reimbursed to an importer who exports a similar amount of like product within a 3-year period of importation. This provision has opened the door for processed citrus imports to the United States, despite the fact that the United States is the world's largest citrus producer. During calendar year 1977, the United States imported 48 million single-strength gallons of orange concentrate at a value of $26.6 million (17). Brazil, the world's largest exporter of concentrated orange juice, shipped an average of 17 percent of its exports to the United States from 1962 through 1975 (15).

Fresh citrus import duties to the United States are 1 cent per pound for oranges and range from 0.8 cents to 1.3 cents per pound for grapefruit, depending on the time of year. Nevertheless, the United States imports fresh oranges and tangerines from Mexico, Israel, and a few from Japan. Minor amounts of grapefruit are imported, primarily from Mexico. Of the five leading citrus-producing nations, the United States and Japan are the only countries which import substantial quantities of fresh citrus (table 6).

Table 6—Fresh citrus imports of five largest citrus producing nations, 1976

Country	Oranges & tangerines	Lemons & limes	Other citrus[1]
	Metric tons		
United States	27,286	5,400	6,300
Brazil	0	0	0
Japan	24,401	92,768	152,726
Spain	407	4	0
Italy	133	0	31,689

[1] Includes grapefruit.

Source: Food and Agriculture Organization (FAO).

European Economic Community

Countries within the European Economic Community are net consumers of fresh and processed citrus products. Currently Italy is the only full member country producing citrus; however, the entry of Spain would add another citrus-producing country. Despite the fact that the EEC is a net importer of citrus, tariffs and duties on citrus products are 19 percent ad valorem for orange juices and 15 percent ad valorem for grapefruit juices. Fresh oranges are taxed from 4 to 20 percent ad valorem depending on the season, and fresh grapefruit are taxed 4 percent ad valorem year-round.

The EEC tariff schedules for processed citrus products tend to be discriminatory in that preferential duty reductions of 70 percent are allowed to Israel, Tunisia, Morocco, and Algeria. The United States contends that the General Agreement on Tariffs and Trade (GATT) binds EEC external tariffs to the United States and that the preferential tariffs tend to nullify these bindings. The net effect of these preferential tariff schedules is to penalize the more efficient producers of processed citrus products in the United States and South America at the expense of higher consumer prices to EEC consumers.

Approximately 12 percent of Italy's citrus production is processed. Between 80 percent and 99 percent, depending on type of citrus, of the processed products go into industrial uses, such as soft drink bases (14). Spain processed about 30 percent of its citrus, about half of which is juice and the other half is sections (13). Therefore, the protective EEC tariffs on processed citrus products would appear to benefit only those countries with loose ties to the EEC which enjoy preferential tariff rates as opposed to full and potential EEC members (for example, Spain and Italy), while at the same time denying consumers access to product from major juice-producing countries.

Other than the preferential tariff structure, several European countries impose a value-added taxing structure on orange juice which discourages consumption and penalizes suppliers of high quality and higher priced products. These structures tax orange juice at non-food rates, which are generally much higher than food rates (table 7). This type of tax structure discourages international trade and market development for product forms which can be shipped, stored, and marketed in the most efficient manner. The net result is less product choice and higher prices for consumers.

Table 7—Value-added taxes for selected countries for orange juice and other foods

Country	Orange juice	Other foods
	Percent	
Belgium	14	6
France	17.6	7.5
United Kingdom	8	0
Netherlands	18	4
Austria	17	8
Germany	11	4.5

Source: Florida Citrus Industry Organizations, position paper, June 1, 1977.

Japan and Far East Countries

Citrus trade flows between Japan and Taiwan and other citrus-producing countries are limited by both tariff and non-tariff barriers. These take the form of absolute volume quotas, and, especially in the case of Japan, fungicide regulations which are more restrictive than those of the World Health Organization.

Japan and Taiwan are citrus-producing nations and their domestic industries must be protected. However, their production is largely of the Satsuma type fruit. This fruit is primarily suitable for fresh use and, being largely seedless, for processed sections. Processed juice tends to be heavy and sour when compared with the juice produced from true orange varieties produced in other countries. Increased plantings in Japan have led to overproduction problems necessitating the establishment of government-subsidized crop-thinning programs (12).

Without a viable juice market, Japanese growers are subject to widely fluctuating prices resulting from fluctuating crop sizes and a fairly stable fresh demand. Product use alternatives and storage capabilities could mitigate some of the impact of variable supplies. There is some evidence that a blend of 40-percent Florida juice and 60-percent Mikan juice would be an acceptable product to Japanese consumers. This option, however, is limited because of the current Japanese quota on processed orange juice of 3,000 metric tons per year.

Israel is an example of a citrus-producing nation using citrus imports to supplement and expand their marketing opportunities. During 1976, Israel produced 1.2 million metric tons of oranges. While a major portion was sold in fresh form, about 30 percent was processed into juice. During the same year, 1976, Israeli processors imported 14.5 thousand metric tons of Brazilian orange juice concentrate. Presumably this juice was used to blend with low Brix domestic juice for sale to domestic and foreign consumers.

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